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Vol. LXI.] [Part I.

JOURNAL

OF THE ROYAL STATISTICAL SOCIETY,

MARCH, 1898.

The Recent Course *of* Trade *within the* British Empire.

By J. A. Baines, C.S.I.

[Read before the Royal Statistical Society, 18th January, 1898.
The President, The Right Hon. Leonard H. Courtney, M.P., in the Chair.]

Shortly before the last ordinary meeting information was received that the paper expected for January could not, for unavoidable reasons, be ready in time for the meeting. Of the rest of the contributors to the work of the session none had a paper sufficiently advanced in preparation to fill the vacancy. Rather than postpone the meeting, it was arranged that a course savouring somewhat of innovation in the proceedings of the Society should be adopted, and that in place of a complete and exhaustive paper, followed by a discussion which has necessarily to be short, the paper itself should be abbreviated and made to serve as a text for more adequate discussion. In the performance of the task of opening this discussion, with which I have been honoured, I have selected—rather rashly, as it appears to me since the material has been collected—a subject which has been more than usually prominent during the last year or two, and which, accordingly, it was hoped would give occasion for the expression of views of far wider scope than will be found in the bare recitation of the statistical facts with which I propose to deal.

The period included in the survey extends, for the most part, from twenty-nine to thirty years. In the case of Canada I have reduced it to twenty-five years, because the earlier figures seemed in some respects to be scarcely uniform with the rest. Owing to the short time at my disposal I have mainly used the abstracts published annually in this country, only supplementing them from the colonial returns in matters of detail. I take this opportunity of acknowledging the great help given me by our Librarian, Mr. Mackenzie, and his assistant, Mr. Robins, in compiling the figures of the colonies which I thought it scarcely worth while to treat separately. Without this aid I could not have arranged the mass of material in an order suitable for even the comparatively

superficial appreciation which I propose to submit to the meeting. As is only too well known to those who have to work from general abstracts, the main difficulty is that of selection and the elimination of inconsistent items which are an invariable obstacle to the use of a general total, except on the simplest and broadest lines.

I begin, then, with the general trade of the colonies and colonial groups, using the term colony as a matter of convenience for every item included in Greater Britain, ignoring the correct signification of the word, according to which Mr. Lucas, following Sir G. C. Lewis, would have us include only the United States amongst the colonies of Great Britain. The following table gives the mean value of the trade of each colony during the period included in the survey, together with the mean balance of trade, and the proportion of imports on the total at the beginning and end of that period.

TABLE I.—*The General Value and Balance of Colonial Trade.*

Colony.	Mean Value of Trade of Thirty Years. (In Thousands.)		Percentage of Imports on Total Trade.		
	Imports.	Exports.	1867-71.	Mean of Thirty Years.	'92—95-6.
	£	£			
1. Canada*	22,140,	19,399,	58	53	50
2. *Australasia*†	*30,696,*	*30,611,*	*46*	*50*	*42*
New South Wales	9,384,	9,089,	45	51	42
Victoria	10,423,	10,443,	38	50	44
South Australia	2,942,	3,348,	51	47	41
Queensland	1,866,	1,834,	42	50	39
New Zealand	4,992,	5,308,	54	48	42
3. Cape and Natal	9,063,	8,375,	48	52	50
4. West Africa	1,411,	1,571,	43	47	49
5. „ Indies and Guiana	7,552,	8,193,	46	48	50
	Rx.	Rx.			
6. Mauritius	2,564,	3,100,	45	45	55
7. India	62,472,	79,621,	46	44	43
8. Ceylon	5,709,	4,773,	55	54	53

* Mean of twenty-five years. † External trade only.

I may as well make the preliminary observation, that throughout this paper that period is divided for convenience of treatment into quinquennial groups, for which, when proportional figures are used, the mean for the whole serves as a base of comparison. In special cases, however, reference to annual figures will be necessary, in order to locate certain fluctuations to a more definite source. In the table under consideration dollars have been reduced to sterling for Canada, but conversion seems un-

suited for the figures of trade in countries like India, Ceylon, and Mauritius, where accordingly no attempt has been made to accentuate the silver debasement of the unhappy East, and the return is made in tens of rupees. The door is thus undoubtedly left open to the flood of currency talk, and the divergence of the two metals in terms of each other is a factor that must be taken into consideration in estimating the course of trade values later on. For the present, however, the only point to which the table refers is the position of the colony in relation to the balance of trade. It will be noticed that the mean proportion indicates that for the greater part of the period, Canada, Ceylon, and South Africa have been importing more than they export. In Australasia, as a whole, the balance is even, but taking the colonies separately, South Australia and New Zealand are considerably inclined to the export branch of the trade; Queensland and Victoria stand level, and New South Wales imports slightly in excess of its exports. Looking however to the extremes of the period, it appears that the general tendency, except in the Cape, West Africa, the West Indies and Mauritius, is in favour of exports. In Australasia, the only exception is Victoria, where the difference of 6 per cent. is accompanied by one in the other direction of 10 in the sister colony of South Australia, and of 12 per cent. in the slightly more distant relative, New Zealand. In Canada the advance of the export proportion is very marked, though it has only been in progress for the last four years. The reverse movement in the West Indies and Mauritius is probably attributable to one and the same cause, the reduction in the market for the predominant product. It occurs in the former in the last four years only, but in Mauritius since 1891, with a trifling reversion in 1896. In Australasia, for reasons stated below, the intercolonial traffic is not here included. The external trade shows in New South Wales an excess of imports over exports from 1872 to 1891, so that the two periods given in the table form an exception to the rule. In Victoria, again, the two periods of most brisk imports, 1882-91, were marked out by a fall in exports, with a recovery since 1892, partly due to a still greater decline of the other branch of external trade. India, as is well known, is a consistently exporting country, and this tendency seems to strengthen as time goes on. But if we look beyond the period now being dealt with, and go back to the first years of Her Majesty's reign, we find that taking merchandise only, there was then 31 per cent. of imports, and while the exports have advanced in the ratio of 100 to 958, the corresponding rise of the imports is from 100 to 1,456. As in Australasia, State loans and the investment of foreign capital account in the long run for the bulk of the fluctuations.

From the balance of trade I pass on to the values of the two branches independently of each other. In the following table are shown the variations by quinquennial periods, in terms of the mean value of the whole:—

TABLE II.—*The General Course of Colonial Trade.*

Colony.	Variation from Mean Value (100) by Quinquennial Periods.											
	Imports.						Exports.					
	'67—71.	'72—	'77—	'82—	'87—	'92—	'67—	'72—	'77—	'82—	'87—	'92—
1. Canada*	—	103	81	103	101	107	—	90	89	100	98	123
2. *Australasia*†	*64*	*87*	*98*	*132*	*127*	*95*	*72*	*89*	*88*	*103*	*117*	*131*
N. S. Wales	48	73	96	151	129	103	62	75	81	108	129	145
Victoria	67	103	95	120	139	96	108	111	102	95	87	97
South Australia	54	93	120	127	107	99	46	83	103	108	136	124
Queensland	24	58	76	153	163	126	33	63	72	94	137	201
New Zealand	55	96	108	124	104	113	45	79	93	103	131	149
3. Cape and Natal	31	75	103	86	133	172	36	63	90	98	130	183
4. West Africa	71	78	101	101	104	145	84	80	99	100	99	138
5. „ Indies, &c.	82	96	103	107	102	110	89	97	105	107	101	101
6. Mauritius	78	95	91	105	101	130	79	99	119	120	95	88
7. India	72	67	86	104	133	138	66	74	86	107	123	144
8. Ceylon	80	98	95	84	105	138	77	100	104	74	99	146

* Mean of twenty-five years only. † External trade only.

This base is used, partly because I hoped to use diagrams in connection with this portion of the subject, and the long average is convenient for that purpose, partly because the selection for a short period, still more, the use of a single year, even the "annus "mirabilis" 1873, gives a greater prominence than seems necessary to fluctuations of more or less ephemeral duration.

Taking first the imports, one of the most striking features of the series is the sudden leap upwards between the last quinquennium and that which precedes it in every group except the Australasian colonies. Even here, New Zealand turns its back upon the commercial, as she is said to do on the geographical, position of the rest, and improves the occasion to the tune of 8 per cent. Canada too, though maintaining a remarkably even progress during the other periods, conforms to the general rule, though leading up to it more gradually. It is worth noticing, again, that except India, and to a smaller extent, West Africa, there is no item in the table which shows a continuous rise in the proportion throughout the six periods. The nearest approach to this regularity is found in the Cape, and, strange to say, though on a very modest scale, in the West Indies.

In the matter of exports from those colonies, however, the

sugar trade leaves its mark deep in the returns, though, probably owing to the great adaptability of the larger islands and Guiana, the effects are not so marked as in the case of Mauritius. The continuity of the upward progress is more generally observable throughout the rest of the table than it was in the imports. Ceylon, West Africa, and Victoria are the chief exceptions. But here again it is in the last quinquennium that the rise has been most striking, and it extends even to Ceylon, West Africa, and to the more dignified progress of British North America. Taking the thirty years as a whole, the exports rose by about 101, and the imports by some 82 per cent.

Before leaving this part of the subject, I may digress a little in explanation of the omissions of the Australasian intercolonial trade. This is an important item in the total trade of each of the colonies, as the following table will serve to show:—

TABLE III.—*Australasian Intercolonial Trade.*

Colony.	Percentage on Total Imports.							Percentage on Total Exports.						
	1867–	'72–	'77–	'82–	'87–	'92–	Mean	1867–	'72–	'77–	'82–	'87–	'92–	Mean
New South Wales	44	41	40	36	45	47	43	35	45	48	45	47	39	44
Victoria	35	33	37	32	36	43	36	18	21	29	35	32	27	27
South Australia	32	40	32	35	56	57	43	49	37	30	32	41	46	39
Queensland	73	62	60	55	47	49	54	72	67	62	64	66	60	64
New Zealand	42	31	28	20	17	16	25	49	24	19	21	20	12	22
Total, including Tasmania and W. Australia	38	37	39	35	42	45	39	34	35	38	40	42	48	37
Variation of intercolonial trade from mean	59	79	94	111	138	119	—	59	78	89	109	137	128	—
Variation of external trade	61	87	98	133	126	95	—	72	89	88	103	117	131	—

Every item in this extensive trade, it will be seen, appears twice in the return, first as an export, and again as an import. Sydney, which takes about 35 per cent. of the whole, serves Queensland, whilst its own western tracts find their natural outlet by Adelaide. Victoria does comparatively little with its neighbours in comparison with its foreign trade. New Zealand, still less, as may be expected when we consider that its distance from the main island continent is about equal to that of Gibraltar from Liverpool, and all its best ports look towards the ocean. In connection with the general trade of Australasia it will be noted that the stimulus given to the export foreign trade by the cessation from borrowing abroad and the consequent necessity of paying

interest by home produce, since the disastrous collapse of 1893, extended to the intercolonial import trade, which did not fall during the last five years to anything like the extent of the foreign imports, nor, on the other hand, did it rise like the foreign exports. In dealing below, however, with the composition and direction of the trade of these colonies it has been found impossible in the time available for the preparation of the required tables, to separate the two classes. Certain articles, therefore, in the list of main commodities entering into the general trade, are found largely exported as well as imported into the several colonies, thus complicating the returns of home and foreign produce respectively.

The course of trade has hitherto been dealt with solely with reference to values, a method which in the present tendency of prices is admitted to afford but an inadequate view of the question. It has been however out of the question for me to apply to so many and so varied returns the elaborate system of our late colleague, Mr. Bourne, for estimating the fluctuations in trade quantities. But on the principle that every true man's apparel fits your thief, I have no hesitation in "conveying" to this paper, under due acknowledgment, of course, the essays in the required direction made by the compilers of the Year Books of Canada and Australasia. Mr. George Johnson, an Honorary Fellow of this Society, gives in his last issue some detailed calculations on Mr. Bourne's plan of the exports of Canadian produce, grouped under appropriate headings. The results, taking the year 1883 as the base, on account of the high figure reached on that occasion by the total trade of the Dominion, show an increase of nearly 48 per cent. in volume, and of 25 per cent. in value, and on the application of the standard prices to the recorded quantities, a difference of no less than 31 per cent. appears in 1893, and of 39 per cent. in 1896, between the actuals and what would have been their value at the rate of 1883. Mr. Coghlan adopts a somewhat similar method in New South Wales, the results being, he considers, applicable to the general trade of the whole continent so far as home produce and consumption are concerned. Taking his index numbers, and using them modified to suit a base of the mean of 1870-74 for both imports and exports, the decline in the prices of the former amounts to 33, and in the latter to 46 per cent. in the twenty years.

Finally, in connection with this point, we have the ever useful Mr. Sauerbeck and his index numbers at hand, and, looking at the position of the London market in the world of commerce, we may assume the existence of considerable sympathy between the course of prices in the mother country and that in her offspring across the seven seas. The following table, then, includes the more important of the items of raw material exported from the colonies.

It is prepared on the same lines as the preceding tables, giving the thirty years' mean and the percentile variations from it in each direction. In Appendix II will be found the annual variations for the last ten years:—

TABLE IV.—*Variations of Sauerbeck's Numbers.*

Article.	Mean of 30 Years.	Variation from Mean = 100.					
		'67—	'72—	'77—	'82—	'87—	'92—
1. Wheat, American	79	128	123	114	90	82	63
2. Rice, Rangoon	83	124	112	113	88	87	76
3. Mutton, middling	93	101	116	106	105	90	82
4. Tea, average	74	144	132	104	84	70	66
5. Coffee, Ceylon	100	80	114	105	80	107	114
6. „ total	99	77	121	101	72	114	115
7. Sugar, average	78	128	127	118	86	75	66
8. Wool, Australian	85	106	131	111	96	87	69
9. Tallow, average	88	115	113	99	101	80	92
10. Hides	89	97	123	110	108	82	80
11. Cotton, American	74	156	122	95	87	83	57
12. „ Indian	73	165	116	100	81	77	61
13. Jute	84	130	112	111	84	83	80
14. Timber, sawn	87	112	119	102	97	87	83
15. Tin, Straits	90	121	113	81	98	108	79
16. Copper, Chile	82	113	135	103	87	91	71
Total of 45 articles	83	119	123	104	92	85	77

The annual figures show that there was a general slight fall after 1877, and a more marked one after 1892. In the 1887 group few articles fell below three-fourths of the average, but in the following period several went below two-thirds, and coffee alone kept above the mean figure. The table serves its purpose in connection with my present subject by indicating the extraordinary expansion of the volume of trade which must have occurred in order not only to maintain but to increase the aggregate value throughout the greater part of the period under review, in face of the continuous fall in prices. In the case of the silver-using colonies, as before remarked, the fact that so much of their trade is with gold-using countries must not be omitted from consideration in estimating the rise in trade values, though I am not in a position to enter into the complicated question of the extent to which this factor prevails in the general results. In an appended table (Appendix III) will be found a selection of some of the principal articles of trade in the different colonies, with the quantities or values, or, where possible, both, at the periods hitherto used in this paper. The list is neither as complete or as representative as I could wish, but the defect is due to the

impossibility of getting returns under both heads in many important cases for the full term of thirty years, especially in regard to quantities. In the following table I extract a few of the main items, throwing them into the proportional form adopted in the case of the Sauerbeck numbers. Some of them are interesting perhaps in relation to differences between the colonial groups, though admittedly without much value in throwing light upon the aggregate of the trade to which they belong:—

TABLE V.—*Variation in Exports, Selected Articles.*

Colony and Article.	Mean of 30 Years, in 1,000's.	Variation from Mean = 100.					
		1867—	'72—	'77—	'82—	'87—	'92—
CANADA.							
Wheat ..... bshls.	7,733,	—	71	111	81	66	171
Wheat ..... £	1,555,	—	92	130	89	60	129
Cheese ..... cwt.	748,	—	28	54	90	131	197
Cheese ..... £	1,610,	—	40	58	95	122	185
Bacon, &c. .... cwt.	126,	—	134	85	59	63	159
Bacon, &c. .... £	254,	—	109	73	63	54	201
Planks, &c. .... M. ft.	706,	—	105	78	96	100	121
Planks, &c. .... £	1,561,	—	107	72	109	108	104
Deals and ends hds.	271,	—	92	94	104	105	104
Deals and ends £	1,662,	—	92	95	108	104	101
CAPE.							
Gold ..... £	1,336,	2	10	11	18	93	466
Diamonds ..... £	2,598,	8	55	108	119	161	149
Feathers ..... lbs.	162,	12	25	74	157	144	188
Feathers ..... £	458,	20	51	149	180	92	108
Wool ..... lbs.	45,354,	86	91	85	83	141	114
Wool ..... £	2,084,	88	135	105	85	101	86
MAURITIUS.							
Sugar ..... cwt.	2,261,	91	95	105	104	108	95
Sugar ..... £	2,673,	84	95	121	124	94	82
WEST INDIES AND GUIANA.							
Sugar ..... tons	285,	—	—	—	104	104	92
Sugar ..... £	3,616,	103	107	114	106	92	78
Coffee ..... £	656,	72	108	107	55	120	138
CEYLON.							
Coffee ..... cwt.	432,	187	160	150	68	25	10
Tea ..... lbs.	31,213,	—	—	—	11	118	271
INDIA.							
Indian cotton yarn ..... lbs.	74,237,	—	4	26	73	174	223
Indian cotton yarn ..... Rx.	2,808,	—	5	31	73	178	213
Indian cotton piece goods .... yds.	44,594,	—	29	52	102	136	181
Indian cotton piece goods .... Rx.	779,	—	44	65	101	128	165
Indian jute goods ..... yds.	57,012,	11	16	75	110	152	236
Indian jute goods ..... Rx.	1,427,	18	18	69	93	148	254
Raw cotton ..... cwt.	4,998,	103	107	78	108	113	91
Raw cotton ..... Rx.	14,433,	132	107	74	96	108	83

TABLE V *Contd.*—*Variation in Exports, Selected Articles.*

Colony and Article.		Mean of 30 Years, in 1,000's.	Variation from Mean = 100. 1867—	'72—	'77—	'82—	'87—	'92—
INDIA—*Contd.*								
Wheat	cwt.	9,268,	2	14	48	199	177	160
	Rx.	3,592,	2	15	54	211	187	186
Rice	cwt.	23,321,	57	85	91	117	119	131
	Rx.	7,862,	47	66	99	105	123	160
Tea	lbs.	70,653,	17	34	62	103	165	220
	Rx.	3,694,	23	49	81	109	144	194
Wool	cwt.	28,156,	64	79	93	96	124	143
	Rx.	1,190,	53	81	93	88	131	154
AUSTRALASIA.								
Gold (net)	£	6,309,	160	118	86	78	85	73
Tallow	cwt.	661,	57	46	66	77	98	256
	£	819,	77	62	79	90	78	214
Wool	lbs.	453,165,	41	53	85	108	139	174
	£	19,688,	54	78	101	111	127	129
NEW SOUTH WALES.								
Wool	mln.lbs.	169,4	23	26	78	117	156	200
	£	6,802,	36	43	101	124	147	149
VICTORIA.								
Wool	mln.lbs.	102,7	59	80	100	107	130	124
	£	5,406,	73	108	106	105	108	100
SOUTH AUSTRALIA.								
Wool	mln.lbs.	51,1	59	77	106	113	116	129
	£	1,878,	63	100	113	118	105	101
QUEENSLAND.								
Wool	mln.lbs.	41,6	51	49	56	84	141	219
	£	2,047,	57	67	69	85	130	192
NEW ZEALAND.								
Wool	mln.lbs.	73,3	43	67	85	107	132	166
	£	3,130,	50	96	103	100	119	132
Frozen & preserved meat	cwt.	346,	9	9	5	66	217	294
	£	444,	16	19	11	73	210	271
QUEENSLAND.								
Sugar	cwt.	417,	3	10	37	121	162	267
	£	362,	4	15	59	152	161	209
NEW SOUTH WALES.								
Coal, &c.	tons	1,349,	41	61	70	118	155	155
	£	714,	38	78	81	122	160	121
SOUTH AUSTRALIA.								
Flour	tons	57,	63	105	119	120	107	86
	£	635,	74	115	129	113	104	65
VICTORIA.								
Wheat	tons	56,	—	2	62	129	100	207
	£	392,	—	—	79	154	104	163

The export trade alone is dealt with, owing to the better array of both quantities and values recorded for it, as well as to the more distinctive character of this branch of commerce in each colonial group. For Canada, timber, grain and dairy produce are selected. In the Cape, of late years, gold and diamonds take the lead. The old staple, wool, however, the parent of the more lusty trade in Australasia, holds its own, and ostrich feathers, though fallen seriously in value, as the United Kingdom abstracts show, still keep their hold on the market, in spite of the alleged preference of our "feathered women" for more reprehensible forms of savagery in their ornamentation. The Highland regiments may have something to do with the demand. Sugar remains at 86 per cent. of the Mauritius exports, though fallen from the 91 per cent. of the first period dealt with. In the West Indies, though Jamaica, with coffee, fruit, and logwood, shows signs of adapting itself to the changing times, and Trinidad follows suit with cocoa, and is trying to push its asphalte, the competition of beet sugar, entailing the fall in price of the cane product shown in Mr. Sauerbeck's table of 1896, has had results which can best be appreciated from the report of the recent Royal Commission. In respect to this adaptability to changes in the market, Ceylon offers an admirable object lesson as a striking example of British enterprise in such matters. Coffee began to fall from 1869. Cinchona was then tried with success, but with an insufficient market, further restricted by the improved chemical processes adapted some eight or nine years ago. In 1876 some 23 lbs. of tea were tentatively exported from the island. This year, I see, the return reaches 117 million pounds. Without ignoring differences in physical features, is it not possible that, to some extent—I put forward the hypothesis with diffidence—the difference between this colony and some others which have been driven from their long established markets by modern circumstances, is attributable to the difference in character of an enterprise conducted by settlers who have the *animus revertendi* to the invigorating conditions of British life, and of one for generations in the hands of permanent colonists in climatic conditions to which they have had to adapt themselves by long process of modification from their native traditions and surroundings?

The list for India is perhaps the most uniform of any. The prevailing characteristics are well known, and I need only recall the attention of those who followed the discussions of two years ago on the cotton duties, to the figures relating to the trade in coarse cotton yarn and piece goods. The absolute amounts are small in comparison with those of this country, but the rate of progress is remarkable.

Of Australasian trade I have only to point out that owing to

differences in the form of record, arising possibly from tariff necessities, there are but few articles which can be compiled into a total for the entire group. The gold shown in the list is the net export, which has had a falling tendency for some years. I note however that West Australia, though returning a small output, has more than doubled its figures this year. On the wool trade, as a whole, I propose to add a few remarks later on, if time allow. Frozen and preserved meat, the latter however being now at a discount, is shown in a complete form for New Zealand alone; and in the interests of this almost necessary branch of trade, I trust that the project of the managers thereof will soon be carried out, and that by means of direct sales we may get the article under the real name, and not as prime English, when it is good, and as Antipodean only when it falls short of the standard of the earner of the "living wage."

Of Queensland sugar, as the labour question does not fortunately come within sight of my subject, I will only remark that it appears from the returns that the greater part of the customs revenue of the neighbouring and parent colony of New South Wales, apart from the tax on stimulants, is derived from the reversal of the habit popularly attributed to the pelican, from the demands that are made by the mother on the produce of her offspring.

Summing up this part of the question, I can only repeat what I have already said, that the rise in both classes of trade which has characterised the greater part of the period with which I have to deal, is all the more remarkable from having taken place in the face of the general and heavy fall in money values which has prevailed for at least twenty years in every section, except India and the far east of the empire. The cause of the decline I leave to others to determine, as I know there are as many champions as there are explanations, and some may be before me to-day.

The second part of my subject is the consideration of the geographical distribution of the trade of the respective commercial groups. This very naturally tends, in this country, to reduce itself in the end to the appreciation of the commercial relations between the United Kingdom and her offshoots and dependencies. It is in this aspect that the question has been very markedly and deservedly prominent in colonial discussion for the last two years or so, and it is one to which I should have been personally inclined to have devoted the greater portion of my attention in preparing this paper had time allowed. The ground has to be cleared however by reviewing the more general conditions of the question, and presenting the statistical side of the general dealings of the colonies with the outside world.

In Table VI below, therefore, which is based upon figures given in Appendix IV, I treat the information under this head in the same manner as I have disposed of the figures relating to trade values and quantities. The whole term of thirty years is subdivided into six portions, and the figures of each are compared with the general mean.

TABLE VI.—*Variation of Colonial Trade with different Countries.*

	Mean of Thirty Years.	Variation from Mean = 100.					
		1867—	'72—	'77—	'82—	'87—	'92—
A. Imports.							
I. CANADA—	£						
United Kingdom	9,240	—	133	84	103	94	86
„ States.....	10,179	—	96	86	101	101	116
Germany.....	501	—	35	22	79	147	217
France.....	448	—	93	88	94	104	121
British West Indies	249	—	81	83	153	84	99
China and Japan	356	—	57	42	117	133	151
Total	22,140	—	108	81	103	101	107
II. AUSTRALASIA—							
United Kingdom	23,371	59	89	99	135	124	94
„ States.....	1,636	48	51	98	142	154	107
Germany	759	—	—	15	70	175	140
France.....	210	72	29	60	190	169	80
Belgium	1,116	—	—	—	50	120	130
Total*	30,751	61	87	98	132	127	95
III. CAPE AND NATAL—							
United Kingdom	7,297	30	78	101	84	138	169
„ States.....	307	19	49	111	87	119	215
Germany.....	110	7	6	31	72	103	381
Total	9,063	31	75	103	86	133	172
IV. WEST AFRICA—							
United Kingdom	970	71	83	96	98	104	148
„ States.....	95	88	73	110	127	92	110
Germany.....	150	29	44	87	112	134	194
France.....	34	89	142	163	66	48	92
Total	1,411	71	78	101	101	104	145
V. INDIA—	Rx.						
United Kingdom	46,318	65	69	89	109	134	134
„ States.....	802	11	16	45	114	232	182
Germany.....	427	9	12	10	24	134	411
France.....	824	114	58	73	85	126	144
Belgium	893	—	—	—	17	67	216
China	4,644	146	66	84	98	111	95
Total	62,472	72	67	86	104	133	138

* External trade only.

TABLE VI *Contd.*—*Variation of Colonial Trade with different Countries.*

	Mean of Thirty Years.	Variation from Mean = 100.					
		1867—	'72—	'77—	'82—	'87—	'92—
A. Imports—*Contd.*	Rx.						
VI. CEYLON—							
United Kingdom	1,550	88	102	93	82	109	126
India	3,656	71	94	99	89	105	142
Total	5,709	80	98	95	84	105	138
VII. WEST INDIES AND GUIANA—	£						
United Kingdom	3,413	84	98	97	101	107	113
„ States	1,836	72	91	106	98	106	127
France	113	47	81	136	129	111	96
Total	7,552	82	96	103	107	102	110
B. Exports.							
I. CANADA—							
United Kingdom	9,747	0	95	94	93	81	137
„ States	7,722	0	94	81	110	109	106
Germany	73	0	26	25	57	103	289
France	88	0	62	138	127	75	98
British West Indies	372	0	118	110	88	84	100
Spanish „ „	236	0	112	108	72	92	116
Total	19,399	0	90	89	100	98	123
II. AUSTRALASIA—							
United Kingdom	24,390	67	92	95	104	116	126
„ States	959	12	53	53	120	217	145
Germany	567	—	—	6	14	99	281
France	765	—	—	5	50	88	257
Belgium	801	—	—	—	47	116	137
Total	30,609	72	89	88	103	117	131
III. CAPE AND NATAL—							
United Kingdom	7,239	34	58	69	102	138	199
„ States	167	139	210	80	63	60	48
Germany	65	14	108	52	152	163	111
France	73	—	—	—	198	77	25
Belgium	68	—	—	—	76	139	85
Total	8,375	36	63	90	98	130	183
IV. WEST AFRICA—							
United Kingdom	726	82	76	82	102	108	150
„ States	67	142	117	141	126	43	31
Germany	243	43	57	61	103	128	208
France	158	149	108	140	75	60	68
Total	1,571	84	80	99	100	99	138

TABLE VI *Contd.*—*Variation of Colonial Trade with different Countries.*

	Mean of Thirty Years.	Variation from Mean = 100.					
		1867—	'72—	'77—	'82—	'87—	'92—
B. Exports—*Contd.*	Rx.						
V. INDIA—							
United Kingdom	32,683	85	89	90	108	111	117
„ States	2,979	67	68	79	105	123	158
Germany	1,718	9	11	17	33	122	408
France	6,221	47	62	86	124	126	155
Belgium	2,446	—	5	8	118	178	191
China	13,159	94	93	108	99	105	101
Total	79,621	66	74	86	107	123	144
VI. CEYLON—	Rx.						
United Kingdom	3,256	83	101	107	64	94	151
„ States	214	23	63	76	97	167	176
India	622	118	89	99	94	100	100
Australasia	133	32	41	41	63	125	338
Total	4,773	77	100	104	74	99	146
VII. WEST INDIES AND GUIANA—	£						
United Kingdom	4,411	114	127	126	94	70	69
„ States	2,102	51	45	61	112	168	163
France	258	31	29	96	224	91	129
Total	8,193	89	97	105	107	101	101

It must be understood, of course, that we here deal with the course, not the origin, of trade. The returns specify the country from or to which the goods are shipped, irrespective of their ultimate destination. To take an example which occurs at once to my recollection, the exports of certain produce from India to Egypt attained somewhat suddenly enormous dimensions merely because the custom grew up of shipping to Port Saïd in anticipation of orders as to destination based on the latest possible information as to the state of the European market. Similarly, the trade of Australasia with the continent of Europe, and to a less extent with the United States, shows of late a considerable increase on paper, which has not in fact taken place, but is due to the transfer of trade in the lighter goods from British shipping to lines now established to ply direct from France, Belgium, and Germany. On the other hand there remains a very considerable traffic in foreign goods by British sailing vessels, especially in the heavier goods, which meet a permanent and more or less secure demand. There are other considerations too which have to be

taken into account, but which must be reserved for the final section of this paper.

One of the principal features in Table VI is the recent and rapid development of commercial intercourse between the larger colonial groups and the great trading communities of America and Europe beyond the limits of the empire. A glance at the variations in the figures for Germany, the United States, and Belgium will suffice to prove this. The upward rate of the progress of German trade is in advance of that of most other countries, except, in one or two instances, that of Belgium, which, through Antwerp, may be considered to some extent a German thoroughfare. The peculiar export trade of the Cape places this country at a considerable advantage just now, but this is the only case in which our rate is not lower than that of Germany. It is the same in comparison with the United States, where the Cape exports and the insignificant instance of West Africa, form the only exceptions to the generally greater speed of American progress. France, in this respect, as in some others, shows no steady tendencies. Of Indian produce, however, she is continuously and increasingly appreciative. In return for her silks, she takes large consignments of oilseed and the dry wheat, which suits her style of bakery better than ours. In like way she is approaching Australia in the matter of wool, returning, though to a smaller extent, the finished product of Elbœuf. I have not thought it worth while to include all the other countries trading with the various colonies, although some of them reach a considerable proportion to the total amount of each group, but I have selected the few which manifest, with the exception of Japan, the greatest progress during the period with which I have to deal.

I pass on, therefore, to an equally important question, and by taking the countries selected not independently, as in the last table, but in their relation to the whole value of the trade of which they form part, I give in Table VII the varying percentage

TABLE VII.—*Percentage of Country on Total Trade of Colony.*

Colony.	Period.	Imports.				Exports.			
		United Kingdom.	United States.	Germany.	France.	United Kingdom.	United States.	Germany.	France.
Canada	1867–71	—	—	—	—	—	—	—	—
	'72–76	51	41	0·73	1·72	45	42	0·11	0·31
	'77–81	43	49	0·60	2·20	54	36	0·10	0·70
	'82–86	42	46	1·74	1·84	47	44	0·21	0·57
	'87–91	39	46	3·28	2·10	47	44	0·39	0·34
	'92–95–96	34	50	4·61	2·28	56	34	0·88	0·36
	Mean	42	46	2·28	2·04	50	40	0·37	0·45

TABLE VII *Contd.—Percentage of Country on Total Trade of Colony.*

Colony.	Period.	Imports.				Exports.			
		United Kingdom.	United States.	Germany.	France.	United Kingdom.	United States.	Germany.	France.
Australasia	1867–71	74	4·26	—	0·82	80	0·55	—	—
	'72–76	79	3·16	—	0·22	87	2·00	—	—
	'77–81	77	5·36	0·38	0·43	85	1·90	0·12	0·12
	'82–86	81	5·93	1·35	1·02	81	3·66	0·25	1·23
	'87–91	79	6·89	3·63	0·97	79	5·79	1·57	1·88
	'92–95	64	5·09	3·09	0·49	76	3·46	3·96	4·89
	Mean	76	5·31	2·46	0·68	81	3·19	1·88	2·54
Cape, &c.	1867–71	79	2·05	0·29	—	81	7·60	0·30	—
	'72–76	84	2·19	0·10	—	79	6·65	1·32	—
	'77–81	78	3·63	0·36	—	66	1·76	0·45	—
	'82–86	78	3·42	1·01	—	90	1·28	1·20	1·76
	'87–91	84	3·04	0·94	—	94	0·94	0·99	0·53
	'92–95	80	4·25	2·69	—	94	0·52	0·47	0·12
	Mean	80	3·38	1·21	—	86	2·00	0·77	0·87
India	1867–71	67	0·19	0·09	2·07	53	3·80	0·31	5·59
	'72–76	76	0·30	0·12	1·14	49	3·39	0·32	6·42
	'77–81	77	0·68	0·08	1·12	43	3·43	0·39	7·81
	'82–86	78	1·41	0·15	1·08	41	3·66	0·67	9·03
	'87–91	75	2·23	0·69	1·25	37	3·76	2·15	8·03
	'92–96	72	1·69	2·03	1·37	33	4·11	6·13	8·46
	Mean	74	1·28	0·68	1·32	41	3·74	2·16	7·81
West Indies	1867–71	46	21	—	0·85	68	15	—	1·09
	'72–76	46	23	—	1·25	71	12	—	0·93
	'77–81	42	25	—	1·97	65	15	—	2·90
	'82–86	43	22	—	1·81	48	27	—	6·60
	'87–91	47	25	—	1·62	37	42	—	2·83
	'92–95	46	28	—	1·31	36	41	—	4·01
	Mean	45	24	—	1·49	54	26	—	3·15
West Africa.	1867–71	68	8·36	4·38	2·98	45	7·25	7·86	17·76
	'72–76	73	6·25	5·89	4·35	44	6·23	10·97	13·57
	'77–81	66	7·32	9·15	3·87	38	6·09	9·55	14·24
	'82–86	67	8·51	11·82	1·54	47	5·43	15·84	7·60
	'87–91	68	5·93	13·70	1·09	51	1·86	20·10	6·12
	'92–95	70	5·08	14·16	1·51	50	0·97	23·34	4·99
	Mean	69	6·73	10·63	2·41	46	4·26	15·46	10·06
Ceylon	1867–71	29	—	—	—	73	1·3	—	—
	'72–76	28	—	—	—	69	2·8	—	—
	'77–81	26	—	—	—	70	3·2	—	—
	'82–86	27	—	—	—	58	5·9	—	—
	'87–91	28	—	—	—	65	7·6	—	—
	'92–96	24	—	—	—	70	5·4	—	—
	Mean	27	—	—	—	68	4·5	—	—

they respectively bear to that total at the different subdivisions of the thirty years under review. For convenience of reference, the mean proportions are taken out from the variations, as follows:—

TABLE VIII.—*Mean Proportion to Total Values of Colonial Trade.*

Colony.	Imports.				Exports.			
	United Kingdom.	United States.	Germany.	France.	United Kingdom.	United States.	Germany.	France.
Canada	42	46·00	2·28	2·04	50	40·00	0·37	0·45
Australasia.....	76	5·31	2·46	0·68	81	3·19	1·88	2·54
Cape	80	3·38	1·21	—	86	2·00	0·77	0·87
West Africa	69	6·73	10·63	2·41	46	4·26	15·46	10·06
„ Indies	45	24·00	—	1·49	54	26·00	—	3·15
India	74	1·28	0·68	1·32	41	3·74	2·16	7·81
Ceylon	27	—	—	—	68	4·50	—	—

Such being the mean position of each trading country, the detailed table indicates the difference towards the end of the period. It appears that this country, in the matter of imports, shows a falling tendency from 1892 in most of the large groups. It is most marked in Canada, where, as is only to be expected, the immense weight of the United States, in spite of tariff vagaries, prevails over the more distant source of supply. The same influence is making itself gradually felt in the West Indies, where the negotiations now in progress, if completed to the satisfaction of the colonists, will draw the bonds closer, in the absence of countervailing arrangements in the matter of bounties nearer home. At the same time, as we have our jam industry and the like to reckon with, so the States have the planters of the "solid "South" to consult, and the issue of the undertaking, therefore, is uncertain. Germany has improved its position all along the line. The absence of this country from the return for the West Indies is not due to want of trade, but to the absence of recognition of Germany as a separate item in the earlier returns. Crossing the table to the export side we find the United Kingdom on the down grade in Australasia and India, of the larger groups, but well up in Canada and the Cape. The United States depends less than before on Canada, Australasia, the Cape, and West Africa; in the last named returns, in fact, Lagos includes none at all for several years. India exchanges its jute goods for kerosine, in spite of the Baku competition which is to be now brought, it is rumoured, within the Rockfeller net. The progress of German trade is marked in all the groups but that of South Africa. France is again fitful, with a rising tendency in Australasia and India. In the former case, as in that of the Cape in the 1882

period, it is possibly the increased activity of our neighbours in New Caledonia, as it was in Madagascar, which has stimulated their trade. If this be so, no doubt, from what we have heard of the question from a colonial point of view, Sydney and Brisbane would gladly forego the custom.

To sum up this part of the subject, the figures in Table VIII show that whatever the relatively more rapid rate of progress being made by the other countries, there is much lee way to be made up, except in the West Indies and Canada, before the trade of the United Kingdom is approached within a distance giving cause for reasonable anxiety.

At the same time, the tendency, especially on the part of the magnificent enterprise of the United States, is one which no reasonable observer can afford to neglect. I have hitherto given the position from the standpoint of our colonies and dependencies, which have every reason to congratulate themselves upon the expansion of the field of supply and demand. There is left the other side of the case, namely, how it strikes the productive agents of the mother country. To this great and absorbingly interesting question I propose to devote the rest of my remarks, although a subject which is necessarily so complicated and bound up with detail, and which has received so much attention from competent experts during the last three or four years, must of course be handled tenderly, and set forth in the main with borrowed material.

I proceed, forthwith, to marshal, for discussion, the wealth of borrowed material available on this topic. In order to appreciate the general position of the United Kingdom in the world of trade, we have first to note the proportion borne to it by the trade of the more important, from a commercial standpoint, of its neighbours. In the following table therefore the percentages for the last quarter of a century are set forth, and then reduced to the form adopted in other parts of the paper as convenient for comparison:—

TABLE IX.—*Percentage of Special Exports on those of the United Kingdom.*

Country.	Percentage on United Kingdom = 100.						Variation of Percentage from Mean = 100.				
	'72—	'77—	'82—	'87—	'92—	Mean.	'72—	'77—	'82—	'87—	'92—
France	63·7	64·9	58·2	57·6	59·3	60·6	105	106	96	95	98
Germany	51·1	71·6	67·1	65·8	69·1	64·7	79	110	103	102	106
Belgium	18·7	22·7	22·4	22·0	24·4	22·0	84	103	102	100	111
United States	44·8	73·6	66·8	65·7	82·4	66·3	68	110	100	98	124

The position of all except France has thus materially improved, and the United States are rapidly approaching equality. If we subject the absolute figures from which the above proportions are derived to similar treatment, we get the following results:—

TABLE X.—*Showing the Variation in Value of Special Exports from Mean of Twenty-five Years.*

	Mean.	Variation from Mean = 100.				
		1872—	1877—	1882—	1887—	1892—
	In mln. £'s.					
United Kingdom	227,2	103	92	100	107	98
France	137,8	109	98	96	102	95
Germany	147,1	82	101	104	109	104
Belgium	49,9	88	95	102	107	108
United States	150,7	70	102	101	106	121

Here again the superiority of the United States in the rate of its progress is strikingly exhibited, whilst this country shows but slight variation, with a downward tendency of late, apart from any relation to the trade of the rest. In the twenty-four years however it appears that we have fallen below the figures for 1874-76 by 5·6 per cent., and France by 12·3 per cent., Germany and Belgium rise above it to the extent of 27 and 23 per cent. respectively, whilst the American eagle soars in the empyrean represented by 73½.

As, however, I propose to make large use of the tables already to hand in the valuable return R–8211 of 1896, it is as well to give also the proportions at the periods taken by Sir R. Giffen in that compilation, including the net imports, excluding external produce re-exported, as well as the exports of domestic produce. Belgium, under this arrangement, falls out of the list.

TABLE XI.—*Showing Variations for Thirty Years.*

Country.	Special Imports.						
	Mean of Thirty Years.	Variation.					
		1865—	1870—	1875—	1880—	1885—	1890—
	Mln. £'s.						
United Kingdom	311,	76	94	103	110	102	115
France.....	157,	76	87	102	121	106	108
Germany.....	176,	—	101	104	87	93	115
United States.....	120,	62	93	78	116	115	136

Country.	Special Exports.						
	Mean of Thirty Years.	Variation.					
		1865—	1870—	1875—	1880—	1885—	1890—
	Mln. £'s.						
United Kingdom	219,	83	107	92	107	103	107
France.....	132,	90	101	104	104	99	102
Germany.....	143,	—	81	95	108	108	108
United States.....	127,	35	76	98	130	115	146

We have here the same features in a slightly more accentuated form. A large relative increase in imports except in the more self-sufficing France, a comparatively stationary condition in domestic exports both there and in this country, though, as we know, the circumstances have taken a turn for the better over here since the close of the period to which I am now referring, which is rather ancient history in the rapid transitions of trade in our day.

A point in connection with this part of the subject on which I can but touch in passing, is the relation between the variations in trade and those in population in the various countries under consideration. Here, again, I pillage the ample store of Sir R. Giffen, and garner the following ratios:—

TABLE XII.—*Showing Variations of Net Imports and Special Exports per Head of Population.*

Country.	Imports.						
	Mean.	1865—	'70—	'75—	'80—	'85—	'90—
	s.	*s.*	*s.*	*s.*	*s.*	*s.*	*s.*
United Kingdom..	180·94	156·25	182·33	190·33	195·33	174·16	187·25
France.....	83·51	62·66	75·66	86·58	101·33	86·83	88·00
Germany.....	78·43	—	86·25	86·08	68·25	69·42	82·17
United States.....	49·91	42·04	58·58	42·42	55·58	48·92	51·92

Country.	Exports.						
	Mean.	1865—	'70—	'75—	'80—	'85—	'90—
	s.	*s.*	*s.*	*s.*	*s.*	*s.*	*s.*
United Kingdom..	127·66	119·00	147·25	120·00	133·16	123·6	122·92
France.....	71·14	62·92	75·00	74·92	73·42	69·25	71·33
Germany.....	63·30	—	56·58	63·00	68·6	65·50	62·75
United States.....	51·48	25·99	49·92	56·25	65·92	51·83	59·00

These results in their proportional form are as below:—

TABLE XIII.—*Proportional Variations of the Incidence.*

	Imports.						Exports.					
	'65—	'70—	'75—	'80—	'85—	'90—	'65—	'70—	'75—	'80—	'85—	'90—
United Kingdom..	86	101	105	108	97	103	93	115	94	105	97	96
France.....	75	91	104	121	104	105	89	106	105	103	97	100
Germany.....	—	110	110	87	88	105	—	89	99	109	103	99
United States.....	84	117	85	112	98	104	50	97	109	128	101	115

There are, of course, two variables to be here taken into consideration, the fluctuation of the trade values and those of the population. The latter may keep even step with the former, or, perhaps, as in France, at some of the periods selected, mark time with it. Or, again, it may increase or reduce the incidence by divergent movement. The only material points illustrated, therefore, in the above tables, are the general tendency to rise in the imports into this country, to fall, in the exports, the upward course in the States since 1875, and the irregularity in the German import incidence. In order to bring the tables into line, therefore, and co-ordinate the two elements involved, I give the variations in the population, according to Sir R. Giffen's *data*, pointing out that in the case of the United States, he has, of course for adequate reasons, made use of the same figures for two quinquennial periods:—

TABLE XIV.—*Showing Variations from Mean in Population.*

Country.	Mean Population (In millions)	Variation from Mean = 100.					
		1865—	'70—	'75—	'80—	'85 –	'90—
United Kingdom	34·3	89	93	98	102	107	111
France.....	37·5	102	96	98	100	102	102
Germany.....	45·1	—	91	95	100	104	110
United States.....	47·9	73	80	93	105	118	131

Comparing these variations with those of trade values for the same periods as given in Table XI, it will be seen that the advance in population has been relatively less than that in imports, except between 1885-90. It has been faster than the advance in exports since the former year. In France, as is sufficiently well known, population has lagged behind, to the extreme perturbation of our friends and fellow workers, MM. Bertillon and Leroy-Beaulieu. Our cousins across the Atlantic need have no such qualms, and, for the last period dealt with, Germany may perhaps find food for reflection in the opposite direction. In the case of our Colonial Empire the corresponding calculations are less trustworthy, and I omitted them accordingly from the preceding section of the paper. On second thoughts, however, I add them for what they are worth, in the following table:—

TABLE XV.—*Colonial Variations in Incidence.*

	Imports.						Exports.					
	'67—	'72—	'77—	'82—	'87—	'92—	'67—	'72—	'77—	'82—	'87—	'92—
Canada	—	123	86	102	94	95	—	104	94	99	92	111
Population	—	88	95	101	106	110	—	88	95	101	106	110
Australasia	95	112	106	117	93	77	107	111	98	97	94	93
Population	63	74	91	105	126	141	63	74	91	105	126	141
India	79	72	91	106	127	125	72	81	92	110	115	130
Population	*93**	94	*95**	99	106	113	*93**	94	*95**	99	106	113

* Includes years of famine.

I pass on to the geographical distribution of the trade of the mother country, not, as before, from the point of view of the colonies, but from her own. Table XVI, on p. 23, is brought up to date from the parliamentary returns already acknowledged as the fountain head of so much of what has been set forth above. I have also modified the arrangement in order to give the periods as in my colonial tables.

The steadiness of the ratio of foreign and colonial imports is the first feature that will be noted. In the case of exports the same regularity is wanting, and there is a tendency for the colonies and the *unspecified* countries, where presumably there is more "free fishing," to assume greater prominence. I do not propose to discuss in detail the variations in the figures for different countries, as they are sufficiently obvious, and the general causes are probably better known to many present than to me. I should like, however, to supplement the information to be gleaned in a general way from this table, by the collection of the returns of the proportion of our own trade, as gathered from the trade abstracts of foreign countries at different periods dealt with in the Parliamentary Returns, C–7349 of 1894 and C–8322 of last session; the former over the honoured signature of Sir Robert Giffen, the latter presented as a continuation of its predecessor by Sir Courtenay Boyle.

TABLE XVI.—*Showing the Proportional Distribution of Trade of the United Kingdom.*

Country.	Percentage of Total Imports.							Percentage of Special Exports.						
	1867—	1872—	1877—	1882—	1887—	1892—	Mean.	1867—	1872—	1877—	1882—	1887—	1892—	Mean.
Russia	7·0	5·7	4·4	4·6	5·7	5·0	5·3	3·1	3·4	3·4	2·2	2 5	2·7	2·8
Germany	6·0	5·4	6·2	6·1	6·4	6·4	6·1	11·8	10·6	8·6	7·9	7·3	8·8	9·2
France	11·3	12·2	10·6	9 5	10·3	10·7	10·8	6·7	6·8	7·2	7·0	6·2	6·2	6·7
Holland	4·0	3·8	5·7	6·4	6·4	6·9	5·6	5·7	6·0	4·3	4·0	4·1	3·6	4·6
Belgium	3·3	3·8	3·1	3·8	4·2	4·3	3·8	2·1	2·6	2·9	3·5	2·9	2·2	2·9
Italy	1·3	1·1	1·3	0·8	0·7	0·7	1·0	2·6	3·0	2·9	3·1	2·9	2·2	2·8
Turkey	2·3	1·9	1·6	2·3	2·2	2·2	2·1	4·1	3·4	3·8	2·6	2·9	3·1	3·3
Egypt	5·3	3·5	2·3	2·3	2·2	2·4	2·9	3·6	2·1	1·0	1·3	1·2	1·3	1·7
China	3·3	3·5	3·1	2·3	1·5	0·7	2·3	3·1	2·1	2·4	2·2	2·5	2·2	2·4
United States	16·3	18·7	24·3	22·6	22·7	23·2	21·5	13·4	12·3	10·6	11·4	11·9	10·2	11·6
Brazil	2·3	1·9	1·3	1·3	1·0	1·0	1·4	3·1	3·0	2·9	2·6	2·9	3·6	3·0
Others	15·3	16·3	13·9	14·4	14·0	14·1	14·6	14·9	16·2	16·3	16·7	18·5	19·6	17·1
Total foreign	77·7	77·8	77·8	76·4	77·3	77·6	77·4	74·2	71·5	66·3	64·5	65·8	67·1	68·1
Canada	2·7	3·0	2·8	2·8	2·8	3·3	2·9	3·1	3·8	3·4	3·5	3·3	2·7	3·3
Australasia	4·3	5·1	6·2	6·4	6·6	7·4	6·1	5·7	7·7	8·7	10·5	9·5	8·0	8·4
India	9·6	8·4	7·5	9·0	7·9	6·5	8·1	10·3	9·4	12·5	13·2	13·2	12·4	11·8
Cape, &c.	1·0	1·1	1·3	1·3	1·5	1·2	1·2	1·0	1·7	2·9	2·6	2·9	4·0	2·6
West Indies	2·0	1·6	1·6	1·3	0·7	0·7	1·3	1·1	1·3	1·4	1·3	1·2	1·8	1·3
Others	2·7	3·0	2 8	2·8	3·2	3·3	3·0	4·6	4·6	4·8	4·4	4·1	4·5	4·5
Total, colonies	22·3	22·2	22·2	23·6	22·7	22·4	22·6	25·8	28·5	33·7	35·5	34·2	32·9	31·9
Variation from mean = 100—														
Foreign	79	98	103	102	107	111	—	95	111	91	97	106	100	—
Colonial	78	96	101	107	108	110	—	71	95	99	114	117	104	—
Total	79	98	102	103	107	111	—	87	106	94	103	109	101	—

TABLE XVII.—*Showing the Percentage of Imports and Exports from and to the United Kingdom.*

Country.	Imports from United Kingdom.			Exports to the United Kingdom.		
	1884–85.	1890–92.	1893–95.	1884–85.	1890–92.	1893–95.
Russia—European Ports	26	25	27	30	29	27
Norway	26	29	28	33	33	35
Sweden	26	27	27	48	45	44
Denmark	22	21	21	38	54	59
Germany	15	14	13	16	21	21
Holland	26	21	18	24	27	23
Belgium	13	12	12	19	19	18
France	14	13	13	26	28	30
Spain	18	21	20	25	22	26
Italy	20	22	20	7	12	11
Egypt	39	37	34	64	63	57
China	25	21	18	31	13	9
Japan	45	34	33	9	9	5
Argentine	35	41	37	14	18	17
United States	24	22	20	53	50	49
BRITISH COLONIES	54	51	52	44	40	43

The results are thus summarised by the authors of the compilations in question.

TABLE XVIII.—*Percentage of Imports.*

Countries Importing.	From the United Kingdom.			From Germany.			From the United States.		
	1884-85.	1890-92.	1893-95.	'84—	'90—	'93—	1884.	1890.	1893.
European	18	17	16	18	16	16	6	9	9
Egypt	39	37	34	0·4	2	2	1	0·4	0·5
America	26	25	24	11	12	12	8	7	8
China	25	21	18	—*	—*	—*	3	4	4
Japan	45	34	33	7	8	7	9	9	8
British possessions	54	51	52	0·8	2·4	2·1	8·6	8·1	8·5

* Not distinguished.

In the case of Europe, it appears that German preponderance over British is confined to central Europe, Sweden, and Denmark, and that in other cases the relative trade values are regulated mainly by geographical considerations. There are, however, some marked exceptions, such as, for instance, the high proportion of the French trade with Egypt, Mexico, and Mauritius, due partly to political tradition, and that of the United States with Russia and Portugal. In the main, however, the early British bird has still hold of the business end of the worm, though it is clear

that large joints of the succulent annelid are being appropriated very successfully by those who are growing up strong enough to venture a pull or two against their elder competitor. The real race is to catch the belated barbarian who is only just being tempted above ground. As to this part of the subject the above returns afford us no information, except by way of inference.

The final sweepings of the mass of the figures with which I have been attempting, inadequately and against time, to grapple, relate to the variations in the trade in certain prominent articles of British commerce. I have noticed a few of these in the same form as has been used in the corresponding statements regarding colonial trade, throwing in a selection of items culled from the abstracts of the trade of foreign countries. The woollen trade is of such importance to this country as well as to the Cape and Australia that it ought to receive more notice than has been given to it. The fall in price, according to the Sauerbeck number, has been much in accord with that in mean value of wool imported, according to the declared value computed in the abstract, the figures for the last twenty years averaging in proportion 122, 106, 96 and 76 by Sauerbeck, and 128, 102, 92 and 78 by the abstract for each respective quinquennium. As has been shown in Table V, the exports from Australasia have everywhere risen in quantity far more than in value, and the same may be said of the Cape. In the latter, however, the proportion to total exports, owing to the rise in gold and diamonds, has fallen from 61 per cent. in the 1867 period, to 12 per cent. In Australasia, from 32, the figure has risen to over 39 per cent. The southern island continent has supplied this country with from 60 to 70 per cent. of its imports, whilst only from 11 to 13 per cent. come from the Cape. It is worth noting that whilst the imports have risen in ratio to the mean from 54 to 148, and the amount retained for home use, from 66 to 142, the proportion of gross imports received for the latter has fallen from 60 to 47 per cent., showing that in spite of direct trade between Australia and the continent of Europe, the United Kingdom still remains the chief *entrepôt* of this staple, with a larger export of foreign and colonial wool than before. The significant fact, however, is made apparent in the return below, that it is in the exports of yarn and not in that of piece goods and other manufactures that the increased trade is taking place. France, Belgium and Germany invest in our worsted and yarn for their own factories to work up.

TABLE XIX.—*Showing relative Variations in Exports of Home Produce.*

Article and Country.	Mean of Thirty Years, in Thousands.	Variation from Mean = 100.					
		'67-71.	'72—	77—	'82—	'87—	'92—
A. UNITED KINGDOM.							
1. Cotton yarn, &c. ..... lbs.	229,186,	78	96	103	111	110	102
£	12,595,	116	116	99	101	93	75
2. Cotton piece goods ..... mln. yds.	4,209,	73	85	97	107	119	119
£	58,110,	95	103	100	101	104	97
3. Woollen yarn lbs.	39,754,	99	86	75	97	106	137
£	4,560,	124	117	78	85	89	107
4. „ goods mln. yds.	272,9	109	123	96	100	97	75
£	20,010,	111	121	85	96	101	86
5. Linen „ mln. yds.	182,1	119	112	90	89	95	95
£	5,981,	121	119	95	90	92	83
6. Jute „ mln. yds.	174,3	27	59	91	128	149	146
£	1,855,	40	83	105	119	130	123
7. Boots, &c. .... doz. prs.	542,	75	89	84	102	123	127
£	1,548,	82	99	88	106	117	108
8. Silk goods ..... £	1,885,	71	103	105	122	122	77
9. Apparel ..... £	3,681,	64	86	89	107	129	125
10. Haberdashery ..... £	3,513,	137	160	110	88	63	42
11. Hats, &c. ..... £	1,011,	53	93	104	115	124	111
12. Earthen and chinaware .... £	2,053,	82	93	95	110	116	104
13. Chemicals and dyes ..... £	2,207,	56	90	96	94	122	142
14. Hardware..... £	3,287,	111	135	104	102	87	61
15. Tools and implements ..... £	723,	40	58	55	114	159	174
16. Iron and steel goods ..... tons	3,130,	81	86	97	118	125	93
£	26,158,	82	116	88	98	106	80
17. Telegraph wire .... £	1,243,	92	110	125	106	87	80
18. Steam engines..... £	2,947,	65	91	86	127	125	106
19. Other machinery.... £	7,295,	45	85	77	107	137	149
FRANCE.							
1. Cotton goods ..... frs.	8,635,	69	85	81	113	128	124
2. Silk „ ..... „	3,079,	149	130	79	84	79	79
3. Woollen goods .... „	3,181,	77	103	105	114	109	92
4. Apparel ..... „	4,003,	85	99	89	80	120	127
5. Haberdashery ..... „	1,536,	103	118	115	81	93	90
UNITED STATES.							
1. Cotton goods ..... dols.	9,735,	47	41	117	131	127	137
2. Machinery ..... „	6,707,	37	64	66	102	134	197
3. Mineral oil ..... „	3,819,	70	88	110	115	115	102
4. Bread stuffs..... „	15,041,	46	78	142	111	93	130
GERMANY.							
1. Cotton goods .... 100 k.	219,450,	—	—	59	70	118	153
mks.	133,177,	—	—	—	61	117	122
2. Woollen „ .... 100 k.	204,970,	—	—	75	101	110	114
mks.	168,277,	—	—	—	104	105	91

TABLE XIX *Contd.—Showing relative Variations in Exports of Home Produce.*

Article and Country.		Mean of Thirty Years, in Thousands.	Variation from Mean = 100.					
			'67-71.	'72—	'77—	'82—	'87—	'92—
GERMANY—*Contd.*								
3. Silk goods	100 k.	51,825,	—	—	91	102	117	90
	mks.	16,992,	—	—	118	98	107	77
4. Machinery	100 k.	852.542,	—	—	73	95	100	132
	mks.	58,097,	—	—	72	97	105	126
5. Coarse iron ware	100 k.	1,783,	—	—	68	91	124	117
	mks.	8,788,	—	—	57	113	118	112
6. Leather goods	100 k.	53,982,	—	—	62	120	120	98
	mks.	80,410,	—	—	71	125	121	83
7. Sugar	100 k.	52,467,	—	—	33	98	124	125
	mks.	168,141,	—	—	52	101	113	134

I offer no further comments upon the above figures. The general tendency is plain, and it is for experts to disentangle the lessons of the details.

It has been my endeavour throughout to avoid intruding my own conclusions upon the main points involved in the numerous groups of figures I have presented for your consideration, but to set forth the evidence on the leading features of the subject in the manner best calculated to promote the acquisition of that intelligent appreciation of the commercial situation of the empire, in which, as our President informed us in his inaugural address, lies the best promise of perception of personal national duty. We have reached, apparently, a stage in our economic history in which we can no longer rely, to anything like the same extent as heretofore, on the natural advantages of our country in the shape of its mineral wealth. A long period of peace and steady concentration of the popular attention on the application of science to industry are bringing up our neighbours to our level, though the distance between us is still very great. Instead of buying our manufactures, they invest in our raw, or half-raw, material, so that we "nurse "the pinion which impels the steel" of competition into the breast of ourselves and our colonies. I see nothing in this more active competition but what can be adequately met by our own enterprise. Our colonies, like other communities, will not allow sentiment to intervene in favour of worse or less suitable or more expensive articles simply because they are "made in "England." The recent parliamentary return on the details of our colonial trade (C. 8449) indicates to the least observant the general defects in our system, which we are bound to correct, or we must inevitably "go under" before the skill, judgment, and enterprise of our American kinsmen. I am not prepared to admit the

Partingtonian expedient of preferential tariffs, any more than to admit that a high tariff is not inconsistent with free trade, provided that either it fails in its purpose of protection, or that the industries of the country can get on without it. The labour members of an Australian parliament, who moved a year or two ago for the imposition of a 60 per cent. duty on the import of British manufactures, seem to me to have a better notion of the humour of the situation. Be that as it may, the future belongs to the intelligent and energetic commercial traveller, who must range over the length and breadth of the empire, and to the co-ordination and improvement of what the most practical heads in the country conceive to be real education in industrial science, not only the training in narrow grooves of existing practice, or the mere extension of superficial information, such as is fostered by too many of the technical institutions which have sprung into existence of late years. Other qualities, too, are not to be overlooked in the development of so important a branch of our national life. Add to the "right knowledge," of which our President spoke the other day, the two other attributes, linked with it by our late Laureate—self-reverence and, above all, self control, a quality in which we have not hitherto been found wanting, but which in the present day appears to be somewhat waning in popular favour.

APPENDIX.

I.—*Colonial Trade.* A. *General Imports and Exports. Values.*

[In thousands.]

	1867–71.	1872–76.	1877–81.	1882–86.	1887–91.	1892—	Mean.
(*a.*) *Imports*—	£	£	£	£	£	£	£
Canada	—	24,023,	17,968,	22,705,	22,367,	23,638,	21,940,
Australasia*	18,867,	26,849,	29,937,	40,545,	38,858,	29,123,	30,696,
Cape and Natal	2.772,	6,842,	9,378,	7,811,	12,027,	15,548,	9,063,
	Rx.	Rx.	Rx.	Rx.	Rx.	Rx.	Rx.
India	45,140,	41,653,	53,496,	64,973,	83,103,	86,466,	62,472,
Ceylon	4,595,	5,618,	5,403,	4,785,	5,985,	7,870,	5,709,
Mauritius	2,001,	2,441,	2,338,	2,685,	2,584,	3,338,	2,564,
	£	£	£	£	£	£	£
West Africa	1,004,	1,103,	1,421,	1,421,	1,467,	2,048,	1,411,
„ Indies†	6,182,	7,252,	7,804,	8,056,	7,694,	8,326,	7,552,
(*b.*) *Exports*—	£	£	£	£	£	£	£
Canada	—	17,526,	17,204,	19,373,	19,072,	23,820,	19,399,
Australasia*	21,992,	27,234,	27,071,	31,366,	35,757,	40,206,	30,611,
Cape and Natal	3,023,	5,278,	7,562,	8,212,	10,687,	15,310,	8,375,
	Rx.	Rx.	Rx.	Rx.	Rx.	Rx.	Rx.
India	52,453,	59,284,	68,543,	85,399,	97,778,	114,271,	79,621,
Ceylon	3,677,	4,762,	4,963,	3,526,	4,725,	6,985,	4,773,
Mauritius	2,440,	3,087,	3,693,	3,724,	2,939,	2,720,	3,100,
	£	£	£	£	£	£	£
West Africa	1,323,	1,267,	1,559,	1,565,	1,552,	2,163,	1,571,
„ Indies†	7,332,	7,896,	8,576,	8,741,	8,313,	8,299,	8,193,

* External trade only. † Including British Guiana.

B. *The Chief Australian Colonies.*

Colony.	1867—	1872—	1877—	1882—	1887—	1892—	Mean.
(*a.*) *Imports* (*external*)—	£	£	£	£	£	£	£
New South Wales	4,554,	6,842,	9,001,	14,133,	12,080,	9,693,	9,384,
Victoria	7,005,	10,693,	9,926,	12,480,	14,518,	7,916,	10,423,
South Australia	1,582,	2,748,	3,541,	3,742,	3,133,	2,904,	2,942,
Queensland	448,	1,080,	1,418,	2,851,	3,047,	2,352,	1,866,
New Zealand	2,752,	4,806,	5,395,	6,178,	5,163,	5,657,	4,992,
(*b.*) *Exports*—							
New South Wales	3,527,	4,892,	6,021,	8,107,	10,172,	8,555,	6,879,
Victoria	3,736,	5,221,	5,841,	5,974,	8,295,	6,075,	5,875,
South Australia	756,	1,173,	1,692,	2,040,	3,974,	3,881,	2,253,
Queensland	1,243,	1,761,	2,129,	3,441,	2,687,	2,253,	2,252,
New Zealand	2,035,	2,127,	2,150,	1,519,	1,089,	1,104,	1,671,
Total with Inter-Colonial { Imports	30,725,	42,727,	48,856,	62,955,	66,631,	53,131,	50,758,
Total with Inter-Colonial { Exports	33,239,	41,819,	44,042,	52,030,	61,738,	64,462,	49,555,

II.—*Fluctuations of Sauerbeck's Numbers from the Thirty Years' Mean.*

Period.	Total of 45 Articles.	Wheat (American).	Rice (Rangoon).	Mutton (*Middling*)	Tea (Average).	Coffee (Average).	Coffee (Ceylon)	Sugar (Average).	Tallow.	Wool (Australian).	Hides.	Cotton (American).	Cotton (Indian).	Jute.	Tin.	Copper.
Mean, 1867–96	83	79	83	93	74	99	100	78	88	85	89	74	73	84	90	82
1867–71	119	128	124	101	144	77	80	128	115	106	97	156	165	130	121	112
'72–76	123	123	112	116	132	121	114	127	113	131	123	122	116	112	113	135
'77–81	104	114	113	106	104	101	105	118	99	111	110	95	100	111	81	103
'82–86	92	90	88	105	84	72	80	86	101	96	108	87	81	84	98	87
'87–91	85	82	87	90	70	114	107	75	80	87	82	83	77	83	108	92
'92–96	77	63	76	82	66	115	114	66	92	69	80	57	61	80	79	71
1887	82	77	82	82	72	114	104	67	69	85	99	84	73	76	119	72
'88	84	84	86	91	68	97	92	73	81	85	82	84	79	83	123	132
'89	87	80	87	98	68	115	109	88	82	96	79	89	84	94	99	83
'90	87	80	87	99	69	124	116	69	81	89	79	91	79	83	100	88
'91	87	90	95	82	76	119	116	73	85	82	74	70	66	81	97	83
1892	82	75	93	82	69	114	120	74	91	72	71	62	62	94	99	73
'93	82	63	75	82	72	124	118	79	99	71	73	69	73	81	90	72
'94	76	53	70	82	63	118	117	62	93	65	72	57	53	79	72	65
'95	75	58	66	86	63	115	113	55	90	67	94	58	56	69	67	69
'96	73	66	75	75	62	101	109	59	87	73	86	65	63	76	63	77

III.—*Colonial Trade:* A. *Prominent Items.*

[In thousands.]

		1867—	1872—	1877—	1882—	1887—	1892—	Mean.
I. CANADA.								
(*a.*) *Imports*—								
Coal	tons	—	644,	1,033,	1,867,	2,894,	3,272,	1,942,
Railway iron	£	—	991,	410,	616,	480,	369,	573,
Cotton goods	£	—	2,059,	1,618,	1,612,	881,	879,	1,410,
Woollen „	£	—	2,332,	1,624,	1,834,	2,088,	1,920,	1,960,
Sugar	cwts.	—	1,046,	1,142,	1,699,	2,127,	3,091,	1,821,
	£	—	1,014,	1,082,	1,049,	1,139,	1,599,	1,177,
Tea	lbs.	—	12,914,	14,192,	18,201,	17,971,	20,479,	16,751,
	£	—	857,	670,	737,	636,	658,	712,
(*b.*) *Exports*—								
White pine	tons	—	342,	266,	207,	142,	104,	212,
Deals and ends	heads	—	250,	254,	283,	285,	281,	271,
	£	—	1,531,	1,579,	1,792,	1,728,	1,681,	1,662,
Planks and boards	mln.ft.	—	742,	546,	678,	708,	857,	706,
	£	—	1,678,	1,118,	1,693,	1,688,	1,629,	1,561,
Horned cattle	No.	—	31,	44,	91,	104,	98,	73,
	£	—	155,	442,	1,101,	1,355,	1,495,	910,
Bacon and ham	cwts.	—	169,	107,	74,	79,	201,	126,
	£	—	278,	184,	161,	137,	511,	254,
Cheese	cwts.	—	212,	402,	670,	980,	1,475,	748,
	£	—	649,	927,	1,533,	1,957,	2,985,	1,610,
Wheat	bshls.	—	5,517,	8,619,	6,264,	5,066,	13,198,	7,733,
	£	—	1,424,	2,028,	1,388,	926,	2,008,	1,555,
Dried fish	cwts.	—	699,	887,	847,	780,	774,	797,
	£	—	582,	700,	685,	627,	686,	656,
II. AUSTRALASIA.*								
(*a.*) *Imports*—								
Tea	lbs.	16,914,	18,803,	24,889,	28,985,	35,535,	37,179,	27,051,
	£	1,306,	1,427,	1,627,	1,628,	1,581,	1,222,	1,465,
Sugar	£	2,135,	2,452,	2,626,	2,898,	2,582,	2,070,	2,460,
Apparel	£	847,	1,283,	1,643,	2,233,	2,803,	2,278,	1,848,
Boots and shoes	£	814,	830,	929,	1,233,	1,136,	750,	949,
(*b.*) *Exports*—								
Gold	£	10,072,	7,456,	5,452,	4,903,	5,345,	4,629,	6,309,
Wool	lbs.	185,447,	242,094,	383,814,	492,364,	628,029,	787,243,	453,165,
	£	10,635,	15,414,	19,804,	21,838,	24,922,	25,444,	19,688,
Tallow	cwt.	378,	304,	436,	509,	648,	1,691,	661,
	£	627,	508,	647,	735,	640,	1,754,	819,
III. THE CAPE.								
(*a.*) *Imports*—								
Apparel	£	135,	320,	414,	344,	438,	642,	382,
Haberdashery	£	252,	549,	626,	562,	852,	1,038,	647,
Furniture, &c.	£	18,	86,	145,	113,	133,	195,	115,
Cotton goods	£	401,	545,	591,	444,	628,	853,	577,
Woollen „	£	125,	261,	253,	197,	263,	326,	237,
Leather and boots, &c.	£	83,	265,	349,	304,	376,	515,	315,
Hardware	£	116,	373,	487,	357,	442,	603,	396,
Coffee	cwt.	55,	65,	98,	88,	76,	100,	80,
	£	117,	231,	268,	174,	277,	289,	226,

* Including intercolonial trade.

III *Contd.—Colonial Trade:* A. *Prominent Items.*

[In thousands.]

		1867—	1872—	1877—	1882—	1887—	1892—	Mean.
III. THE CAPE— *Contd.*								
(*b.*) *Exports*—								
Gold	£	29,	142,	146,	235,	1,242,	6,220,	1,336,
Diamonds	£	197,	1,428,	2,801,	3,107,	4,185,	3,879,	2,600,
Copper	tons	6,	13,	14,	23,	31,	24,	18,
	£	121,	293,	282,	442,	468,	272,	313,
Ostrich feathers	lbs.	20,	41,	120,	255,	234,	305,	162,
	£	90,	234,	683,	824,	422,	496,	458,
Wool	lbs.	38,727,	41,411,	38,695,	37,776,	64,079,	51,434,	45,354,
	£	1,844,	2,814,	2,178,	1,761,	2,114,	1,795,	2,084,
IV. MAURITIUS.								
(*b.*) *Exports*—								
Sugar	cwt.	2,064,	2,149,	2,382,	2,367,	2,449,	2,157,	2,261,
	Rx.	2,234,	2,549,	3,224,	3,326,	2,519,	2,184,	2,673,
V. CEYLON.								
(*a.*) *Imports*—								
Coal	tons	68,	78,	86,	189,	285,	314,	170,
Rice	bshls.	4,484,	5,585,	6,338,	5,659,	6,591,	7,775,	6,072,
(*b.*) *Exports*—								
Coffee	cwts.	810,	690,	646,	294,	107,	45,	432,
Cocoa nut oil	cwts.	134,	175,	216,	297,	373,	456,	275,
Tea	lbs.	—	—	139,	3,384,	36,703,	84,626,	31,213,
Plumbago	cwts.	125,	137,	162,	229,	348,	356,	226,
VI. WEST INDIES, &c.								
(*a.*) *Imports*—								
Rice	mln. lbs.	24·5	31·0	35·7	44·1	44·4	49·0	38·1
	£	127,	177,	230,	236,	239,	260,	211,
Flour	£	303,	415,	390,	485,	367,	384,	391,
Dried fish	£	188,	208,	223,	222,	229,	255,	221,
Cotton goods	£	472,	538,	640,	710,	767,	811,	656,
(*b.*) *Exports*—								
Coffee	£	172,	259,	256,	134,	289,	331,	240,
Logwood	£	134,	178,	147,	132,	321,	372,	214,
Sugar	£	3,717,	3,880,	4,105,	3,844,	3,340,	2,808,	3,616,
	tons	—	—	—	297,	297,	262,	285,
VII. INDIA.								
(*a.*) *Imports*—								
Cotton goods	mln. yds.	948,	1,022,	1,356,	1,692,	2,027,	1,959,	1,501,
	Rx.	14,568,	15,507,	17,253,	20,986,	25,870,	25,500,	19,947,
Cotton yarns, &c.	lbs.	25,923,	31,934,	36,541,	44,544	50,100,	43,887,	38,821,
	Rx.	2,845,	2,727,	2,962,	3,320,	3,580,	3,028,	3,077,
Silk goods	yds.	2,343,	6,073,	8,928,	11,335,	14,302,	15,794,	9,796,
	Rx.	443,	614,	902,	1,155,	1,595,	1,672,	1,063,
Woollen goods	yds.	4,518,	5,935,	8,726,	10,107,	13,001,	13,583,	9,312,
	Rx.	624,	666,	1,065,	1,303,	1,750,	1,766,	1,196,
Coal	tons	323,	359,	594,	715,	804,	741,	589,
	Rx.	619,	620,	1,074,	1,174,	1,626,	1,310,	1,285,
Machinery	Rx.	693,	901,	797,	1,366,	1,997,	2,534,	1,381,
Wrought metals	cwt.	—	—	2,712,	3,941,	4,872,	5,369,	4,223,
	Rx.	—	—	2,713,	3,752,	4,401,	5,230,	4,024,

III *Contd.*—*Colonial Trade:* A. *Prominent Items.*

[In thousands.]

		1867—	1872—	1877—	1882—	1887—	1892—	Mean.
VII. India—*Contd.*								
(*a.*) *Imports—Contd.*								
Iron	cwt.	—	—	2,424,	3,406,	4,071,	4,068,	3,492,
	Rx.	—	—	1,477,	1,985,	2,521,	2,711,	2,173,
Steel	cwt.	—	—	90,	245,	512,	1,052,	475
	Rx.	—	—	85,	171,	335,	650,	310,
Copper and brass	cwt.	—	—	348,	529,	479,	503,	465,
	Rx.	—	—	1,650,	2,057,	1,845,	2,118,	1,917,
Tin	cwt.	—	—	35,	38,	35,	45,	38,
	Rx.	—	—	168,	228,	254,	311,	240,
Sugar	cwt.	480,	470,	659,	995,	1,966,	2,305,	1,146,
	Rx.	601,	624,	1,073,	1,416,	2,317,	2,799,	1,472,
Mineral oil	gals.	—	—	4,913,	18,689,	42,190,	66,379,	33,043,
	Rx.	—	—	303,	801,	1,847,	2,685,	1,409,
(*b.*) *Exports*—								
Raw cotton	cwt.	5,125,	5,350,	3,895,	5,410,	5,678,	4,530,	4,998,
	Rx.	19,052,	15,409,	10,687,	13,895,	15,628,	11,924,	14,433,
„ jute	cwt.	2,860,	6,009,	5,699,	8,206,	10,149,	10,601,	7,254,
	Rx.	1,703,	3,550,	3,652,	4,897,	7,010,	8,777,	4,931,
„ wool	lbs.	17,946,	22,327,	26,082,	27,046,	35,271,	40,267,	28,156,
	Rx.	628,	962,	1,108,	1,046,	1,560,	1,836,	1,190,
Hides, &c.	„	1,322,	2,738,	3,466,	4,667,	4,796,	6,156,	3,858,
Dyes	„	2,736,	3,436,	3,501,	4,546,	4,391,	5,177,	3,964,
Oil seeds	cwt.	4,690,	5,784,	9,307,	15,314,	15,632,	20,896,	11,937,
	Rx.	2,355,	3,059,	5,707,	8,817,	9,633,	12,907,	7,079,
Rice	cwt.	13,366,	19,732,	21,415,	27,179,	27,725,	30,508,	23,321,
	Rx.	3,675,	5,177,	7,752,	8,262,	9,713,	12,591,	7,862,
Wheat	cwt.	225,	1,274,	4,533,	18,403,	16,307,	14,866,	9,268,
	Rx.	83,	526,	1,951,	7,585,	6,709,	6,699,	3,592,
Tea	lbs.	9,864,	20,155,	36,341,	60,555,	96,937,	129,415,	70,653,
	Rx	863,	1,795,	3,005,	4,012,	5,321,	7,166,	3,694,
Indian cotton goods	yds.	—	12,995,	23,366,	45,299,	60,464,	80,847,	44,594,
	Rx.	—	342,	485,	789,	998,	1,281,	779,
Indian cotton yarn, &c.	lbs.	—	3,007,	19,525,	54,036,	129,077,	165,542,	74,237,
	Rx.	—	146,	865,	2,062,	4,983,	5,984,	2,808,
Indian jute goods	yds.	6,258,	9,016,	42,583,	62,599,	86,979,	134,637,	57,012,
	Rx.	258,	262,	983,	1,319,	2,108,	3,630,	1,427,

B. *The Chief Australian Colonies.**

I. New South Wales.								
(*a.*) *Imports*—								
Drapery	£	838,	1,288,	2,579,	3,495,	2,432,	1,798,	2,067,
Hardware, &c.	£	111,	252,	437,	703,	511,	341,	403,
Timber	£	32,	62,	201,	448,	491,	345,	263,
Iron and steel	£	166,	390,	727,	1,000,	998,	708,	665,
Machinery	£	58,	104,	226,	458,	447,	246,	256,
(*b.*) *Exports*—								
Coal and coke	tons	553,	824,	942,	1,594,	2,097,	2,086,	1,349,
	£	274,	555,	582,	870,	1,142,	862,	714,
Hides and skins	£	24,	65,	157,	299,	356,	748,	275,

* Including intercolonial transactions.

III *Contd.*—*Colonial Trade:* B. *Australian Colonies Contd.*

[In thousands.]

		1867—	1872—	1877—	1882—	1887—	1892—	Mean.
I. N. S. WALES—*Contd.*								
(*b.*) *Exports—Contd.*								
Preserved and frozen meat	£	61,	130,	152,	240	158,	425,	194,
Tin, ingots	cwt.	—	73,	155,	188	107,	74,	119,
	£	—	295,	571	853,	561,	289,	515,
Silver, lead, and ore	cwt.	—	—	—	48,	1,612,	3,771,	1,810,
	£	—	—	—	107,	1,934,	2,303,	1,448,
Wool	ml. lbs.	38,6	44,9	132,5	198,6	263,6	338,1	169,4
	£	2,467,	2,944,	6,845,	8,434,	9,978,	10,142,	6,802,
VICTORIA.								
(*a.*) *Imports—*								
Coal and coke	tons	140,	198,	272,	478,	752,	611,	408,
	£	169,	243,	333,	424,	710,	376,	376,
Cotton goods	£	429,	638,	694,	916,	903,	784,	727,
Haberdashery	£	—	—	253,	370,	353,	222,	299,
Woollen goods	£	898,	901,	799,	982,	963,	542,	847,
Machinery	£	67,	91,	92,	200,	322,	127,	150,
(*b.*) *Exports—*								
Butter	cwt.	—	—	—	14,	17,	157,	63,
	£	—	—	—	75,	82,	561,	239,
Preserved and frozen meat	lbs.	4,738,	7,709,	4,272,	5,551,	—*	11,034,	6,661,
	£	124,	195,	105,	97,	—*	143,	133,
Skins	No.	237,	511,	2,766,	4,792,	5,655,	12,134,	4,349,
	£	21,	50,	56,	116,	173,	302,	120,
Wheat	tons	—	1,	35,	72,	56,	116,	56,
	£	—	8,	308,	598,	408,	639,	392,
Wool	ml. lbs.	60,4	82,7	102,4	110,3	133,3	126,9	102,7
	£	3,933,	5,855,	5,724,	5,665,	5,854,	5,404,	5,406,
SOUTH AUSTRALIA.								
(*a.*) *Imports—*								
Drapery	£	566,	809,	680,	839,	731,	706,	722,
Groceries, &c.	£	33,	50,	96,	183,	148,	206.	119,
Timber	£	70,	148,	274,	229,	213,	162,	183,
(*b.*) *Exports—*								
Copper	cwt.	118,	134,	86,	75,	71,	85,	95,
	£	463,	577,	304,	230,	199,	195,	328,
Wheat	£	356,	746,	824,	855,	951,	564,	716,
Flour	tons	36,	60,	68,	68,	61,	49,	58,
	£	470,	729,	820,	717,	663,	413,	635,
Silver, metal	£	—	—	—	256,	1,715,	1,741,	1,237,
Wool	ml. lbs.	30,3	39,6	54,0	57,7	59,3	66,0	51,1
	£	1,194,	1,881,	2,114,	2,210,	1,976,	1,895,	1,878,
QUEENSLAND.								
(*a.*) *Imports—*								
Drapery and linen	£	310,	416,	434,	525,	335,	316,	389,

* Returns incomplete.

III *Contd.—Colonial Trade:* B. *Australian Colonies—Contd.*

[In thousands.]

		1867—	1872—	1877—	1882—	1887—	1892—	Mean.
QUEENSLAND—*Contd.*								
(*a.*) *Imports—Contd.*								
Iron and steel....	£	42,	117,	149,	309,	276,	216,	185,
Machinery	£	37,	61,	77,	298,	173,	134,	130,
Flour	tons	14,1	18,2	22,7	32,7	40,0	34,3	27,0
	£	212,	240,	288,	358,	416,	301,	303,
Cotton goods	£	—	—	—	120,	178,	234,	177,
(*b.*) *Exports*—								
Hides and skins	No.	53,	58,	75,	110,	104,	293,	115,
	£	61,	87,	86,	115,	121,	332,	134,
Sugar	cwt.	11,	41,	153,	506,	676,	1,116,	417,
	£	16,	56,	215,	545,	584,	756,	362,
Frozen and preserved meat	£	49,	69,	51,	110,	136,	693,	185,
Wool	ml. lbs.	21,2	20,3	23,6	34,9	58,8	91,0	41,6
	£	1,160,	1,366,	1,425,	1,738,	2,657,	3,939,	2,047,
NEW ZEALAND.								
(*a.*) *Imports*—								
Drapery	£	555,	891,	1,015,	977,	440,	319,	699,
Cotton goods	£	88,	104,	116,	223,	295,	380,	201,
Books, &c.	£	82,	147,	192,	213,	188,	198,	170,
Woollen goods.....	£	126,	161,	124,	122,	123,	191,	141,
Iron and steel.....	£	294,	536,	547,	552,	400,	540,	478,
(*b.*) *Exports*—								
Butter.....	cwts.	—	—	—	15,	38,	58,	37,
	£	—	—	—	74,	119,	240,	144,
Kauri gum	tons	3,6	3,3	4,1	5,8	7,7	8,2	5,4
	£	121,	114,	179,	239,	378,	463,	249,
Frozen and preserved meat	cwts.	32,	32,	18,	229,	751,	1,015,	346,
	£	73,	85,	49,	319,	934,	1,204,	444,
Wool	ml. lbs.	31,7	48,9	62,4	78,4	96,7	122,0	73,3
	£	1,556,	2,974,	3,232,	3,137,	3,739,	4,144,	3,130,

IV.—*Colonial Trade: Main Geographical Distribution of Trade.*

[In thousands.]

	1867—	1872—	1877—	1882—	1887—	1892—	Mean.
I. CANADA.	£	£	£	£	£	£	£
(*a.*) *Imports*—							
United Kingdom	—	12,326,	7,752,	9,479,	8,713,	7,929,	9,240,
„ States	—	9,772,	8,739,	10,258,	10,278,	11,849,	10,179,
Germany	—	176,	108,	395,	735,	1,089,	501,
France	—	415,	395,	419,	471,	540,	448,
British West Indies	—	204,	207,	380,	209,	247,	249,
Spanish „	—	229,	215,	372,	393,	493,	340,
China and Japan	—	204,	148,	416,	475,	539,	356,
(*b.*) *Exports*—							
United Kingdom	—	7,923,	9,307,	9,125,	9,058,	13,324,	9,747,
„ States	—	7,300,	6,183,	8,489,	8,442,	8,195,	7,722,
Germany	—	19,	18,	41,	75,	211,	73,
France	—	54,	121,	111,	66,	86,	88,
British West Indies	—	438,	408,	331,	312,	373,	372,
Spanish „	—	264,	254,	171,	218,	274,	236,
II. AUSTRALASIA.							
(*a.*) *Imports*—							
United Kingdom	13,759,	20,879,	23,119,	31,491,	28,944,	22,036,	23,371,
„ States	788,	839,	1,601,	2,319,	2,515,	1,755,	1,636,
Germany	—	—	115,	529,	1,327,	1,064,	759,
Belgium	—	—	—	559,	1,342,	1,446,	1,116,
France	152,	60,	128,	399,	355,	168,	210,
(*b.*) *Exports*—							
United Kingdom	16,436,	22,335,	23,039,	25,421,	28,363,	30,748,	24,390,
„ States	113,	510,	512,	1,148,	2,080,	1,394,	959,
Germany	—	—	32,	80,	563,	1,593,	567,
France	—	—	34,	385,	677,	1,966,	765,
Belgium	—	—	—	373,	930,	1,101,	801,
III. CAPE, NATAL.							
(*a.*) *Imports*—							
United Kingdom	2,196,	5,721,	7,353,	6,088,	10,062,	12,365,	7,297,
„ States	57,	150,	341,	267,	366,	661,	307,
Germany	8,	7,	34,	79,	113,	419,	110,
(*b.*) *Exports*—							
United Kingdom	2,439,	4,178,	4,966,	7,411,	10,030,	14,411,	7,239,
„ States	230,	351,	133,	105,	101,	80,	167,
Germany	9,	70,	34,	99,	106,	72,	65,
Belgium	—	—	—	52,	94,	57,	68,
France	—	—	—	145,	57,	18,	73,
IV. WEST AFRICA.							
(*a.*) *Imports*—							
United Kingdom	687,	802,	937,	954,	1,005,	1,438,	970,
„ States	84,	69,	104,	121,	87,	104,	95,
Germany	44,	65,	130,	168,	201,	290,	150,
France	30,	48,	55,	22,	16,	31,	34,
(*b.*) *Exports*—							
United Kingdom	594,	555,	598,	735,	787,	1,087,	726,
„ States	96,	79,	95,	85,	29,	21,	67,
Germany	104,	139,	149,	248,	312,	505,	243,
France	235,	172,	222,	119,	95,	108,	158,

IV *Contd.—Colonial Trade: Main Geographical Distribution of Trade.*

[In thousands.]

	1867—	1872—	1877—	1882—	1887—	1892—	Mean.
V. West Indies.	£	£	£	£	£	£	£
(*a.*) *Imports*—							
United Kingdom	2,872,	3,346,	3,311,	3,449,	3,652,	3,845,	3,413,
„ States	1,317,	1,671,	1,952,	1,806,	1,947,	2,326,	1,836,
France	53,	91,	154,	146,	125,	109,	113,
(*b.*) *Exports*—							
United Kingdom	5,016,	5,586,	5,549,	4,190,	3,086,	3,038,	4,411,
„ States	1,078,	940,	1,273,	2,347,	3,541,	3,432,	2,102,
France	80,	74,	249,	577,	236,	333,	258,
VI. India.	Rx.	Rx.	Rx.	Rx.	Rx.	Rx.	Rx.
(*a.*) *Imports*—							
United Kingdom	30,312,	31,858,	41,254,	50,502,	62,018,	61,966,	46,318,
„ States	85,	125,	363,	918,	1,858,	1,463,	802,
Germany	40,	50,	44,	101,	572,	1,756,	427,
France	936,	477,	601,	700,	1,042,	1,186,	824,
Belgium	—	—	—	154,	601,	1,924,	893,
China and Hong-Kong	6,798,	3,078,	3,898,	4,527,	5,160,	4,406,	4,644,
(*b.*) *Exports*—							
United Kingdom	27,815,	29,207,	29,493,	35,213,	36,277,	38,092,	32,683,
United States	1,993,	2,011,	2,355,	3,131,	3,679,	4,705,	2,979,
Germany	166,	191,	269,	574,	2,100,	7,011,	1,718,
France	2,933,	3,807,	5,356,	7,712,	7,854,	9,666,	6,221,
Belgium	—	121,	208,	2,876,	4,349,	4,674,	2,446,
China and Hong-Kong	12,414,	12,196,	14,124,	13,075,	13,850,	13,294,	13,159,
VII. Ceylon.							
(*a.*) *Imports*—							
United Kingdom	1,357,	1,577,	1,435,	1,277,	1,705,	1,949,	1,550,
India	2,614,	3,450,	3,602,	3,242,	3,846,	5,176,	3,656,
(*b.*) *Exports*—							
United Kingdom	2,708,	3,304,	3,471,	2,048,	3,075,	4,929,	3,256,
„ States	49,	136,	161,	207,	358,	377,	214,
India	737,	554,	620,	583,	620,	620,	622,
Australia	43,	56,	55,	84,	167,	449,	133,

Discussion *on* Mr. Baines's Paper.

Mr. R. H. Hooker said he must crave the indulgence of the Society for what was an unusual proceeding. Mr. Flux, who was at Manchester, had a very considerable mass of materials dealing precisely with many of the points which had been dealt with in the paper. Knowing that he could not possibly be present, he (Mr. Hooker) had offered to act as Mr. Flux's mouthpiece if that gentleman cared to let him have his notes. Mr. Flux had sent the following remarks, which, with the permission of the Society, he would proceed to read:—

Mr. A. W. Flux wished first to make a few general remarks on the mode of comparison adopted in the paper, with especial reference to Tables X and XI and the comments on them.

To begin with, the adoption of the twenty-five year period as the basis of comparisons made all the figures exaggerate the advance of other countries with respect to our own. The disturbances associated with the Franco-Prussian war affected every one of the comparisons, and where that influence was less, as in the case of America, other disturbing causes of considerable importance were existent. The march of events would have been better shown had the period taken for consideration been shortened to the last twenty years. To some extent a similar remark might apply to the earlier part of the paper.

Another feature was the convenient but sometimes misleading comparisons of consecutive quinquennia. If the general line of progress was to be shown, the five-year period was too short; if the comparison of trade conditions in prosperous and depressed times was aimed at, the division of time was too rigid. In the latter case a comparison of periods chosen so as to embrace respectively the best and the worst years of a commercial cycle was desirable (as he had done in his article on "British Trade and German Competition" in the "Economic Journal" for March last). In the former case he would have preferred ten-year periods, and if it was desired to trace the movement more precisely than by taking consecutive decennia, overlapping periods could be used, such as 1877-86, 1882-91, 1887-96, &c.

He might be excused for referring to the results of some comparisons which he had made for his own purposes in the course of recent months, in particular in reference to the trade of the British empire as shown by the figures of the Statistical Abstracts.

He said, as shown by these figures, because some points about these figures warned them that the records were incomplete, and that they must not press conclusions from them in some cases. Reference had been made to some such cases in the paper.

Another might be illustrated by reference to a summary of the figures given in relation to imports and exports from one British colony to another (using the word "colony" in the wide sense adopted by Mr. Baines). The recorded average amount of imports to British colonies from other British colonies, arrived at by adding the totals for each separate case, was a little more than 24 millions sterling (average) during the twenty years ending 1895. The exports from British colonies to other British colonies amounted on the average to $27\frac{1}{4}$ millions. Clearly the records were in error somewhere. (He might note that this estimate treated Australasia somewhat after the fashion adopted by Mr. Baines. It differed from him in keeping New Zealand separate and independent. Amounts in rupees were converted into sterling at the average rate for council bills in each year.)

The total of imports and exports into our colonies from foreign countries, which was arrived at by deducting from the whole of each colony's imports or exports the amounts recorded as from other parts of the empire (including the United Kingdom), was hardly worth placing much reliance upon; still, it had perhaps enough of interest to be worth referring to. So far as imports to British possessions went, in round figures for the four quinquennia 1876-80 to 1891-95 those from foreign sources amounted to 30, 41, 46, and 50 millions respectively, being, roughly, $22\frac{1}{2}$, 25, $26\frac{1}{2}$, and 30 per cent. of the whole. In exports, foreign countries were responsible for, again in round figures, 39, 56, 63, and 72 millions in the same four quinquennia, or, roughly, 27, 33, $36\frac{1}{2}$, and 38 per cent. of the whole.

These figures indicated a growing trade between foreign countries and the British colonies, growing at a somewhat alarming rate if the figures were given a weight which they did not deserve. As to the rate of progress of this recorded growth, it might be worth noting that the proportion remained fairly constant for the ten years ending 1881, then for ten years a tolerably steady rate of growth was shown, considerably accelerated from 1891 onwards.

One further comparison he might be permitted to make on a point of considerable importance, closely related to that just dealt with. He had tried to get an answer to the question, "What proportion of the trade of the whole British empire was with foreign States, what proportion inter-imperial, and what variations in these proportions had occurred in the last twenty years?" He would only very briefly and roughly indicate the answer at which he had arrived. It was that some 30 per cent. of all international trade had either its beginning *or* its end in the British empire, and of this amount some 40 per cent. (*i.e.*, 12 per cent. of the world's trade) had both beginning and end in the empire. This latter figure had varied in the four quinquennia 1876-80, &c., but little, taking, roughly, the values 40, 41, 40, and 39 in the respective periods.

Mr. H. Moncreiff Paul thought they were much indebted to Mr. Baines for stepping into the breach and, under the circum-

stances, preparing so interesting a paper for discussion. He desired to supplement what Mr. Baines had said with respect to the course of trade between the colonies and the mother country, by supplying the following particulars with regard to the great staple of the Australasian colonies, namely, wool, which showed in a very remarkable degree, on the one hand, a great increase in quantity during the past thirty years, and, on the other, a very great decrease in value. Taking the figures for the years 1868-97, and dividing them into three periods of ten years, he found that in the first period there were received from the Australasian and South African colonies 794,600 bales of wool, of the value of 16,360,000*l.*, equal to 20*l.* 12*s.* per bale. In the next decade there were 1,213,800 bales, with a sterling value of 19,715,000*l.*, or a fall to 16*l.* 5*s.* per bale. In the last decade the number of bales was 1,987,000, and the sterling value was 25,106,000*l.*, or 12*l.* 13*s.* per bale. During these thirty years there was accordingly a rise from 794,600 bales to 1,987,000 as regards quantity, and a fall in price per bale from 20*l.* 12*s.* to 12*l.* 13*s.* The high water mark for wool was the year 1872, after the great waste of material in consequence of the Franco-Prussian war. Whereas in the year 1870 a bale of wool was worth 16*l.* 15*s.*, and in the following year 20*l.* 10*s.*, in 1872 it reached 26*l.* 10*s.* In 1872 the wool grower got 26*l.* 10*s.* for his bale, whereas he only got 11*l.* 10*s.* in 1897. Drought had an important bearing on the flocks in Australia and New Zealand. Australia was visited by drought in 1895, 1896, and 1897, the result of which was shown in the flocks. In 1895 the number of sheep was 120,767,000, and in 1896 there was a drop to 110,939,000, and in 1897 it was 110,819,000. One consolation however remained to the wool grower. The consumption of clean scoured wool prepared for manufacturing purposes in Europe and North America was increasing per head of population. For example, in 1885 the consumption per head was $2\frac{1}{2}$ lbs.; in 1896 it approached nearly 3 lbs. Germany was increasing her connection with Australia with regard to wool, but only to a limited extent by direct communication, as the wool was usually shipped to London and there transhipped to Germany. Mr. Baines seemed to fancy that frozen meat was passed off as "best English." This however was a popular delusion, as there was no difficulty in discriminating between frozen meat and English, and frozen meat was largely sold on its merits in Smithfield Market. Dutch mutton was not retailed in this country as Dutch mutton, and a similar remark applied to American chilled beef. With regard to the remarks of Mr. Baines about Queensland sugar, he might mention that a good deal of this sugar had to be refined before it went into consumption. A large sugar refinery existed in Sydney, where Queensland sugar was prepared for market.

The hypothesis put forward by Mr. Baines regarding the growth of tea in Ceylon might be attractive, but was hardly borne out by existing facts. These were, that the cultivation of coffee having been productive of serious losses through failure of crops, while that of cinchona was not an adequate substitute, advantage was taken of the successful growth of tea in India to

cultivate tea plantations in Ceylon. The success which attended this operation could find no parallel in the West Indies. After the abolition of slave labour there the planters left their estates to be managed by attorneys, and made no attempt to apply improved machinery to the manufacture of sugar, until compelled to do so by the competitive influence of European beetroot sugar, by which the consumptive field has been largely occupied.

Mr. N. L. Cohen said that although the paper was presented as a stop-gap for an emergency, he thought they must all feel it was very fully justified upon its merits. Mr. Baines had said on p. 3, that State loans and investments of foreign capital accounted in the long run for the bulk of the fluctuations, and he referred on the next page to the stimulus of the Australasian exports resulting from the cessation of borrowing. Table II showed that the inverse effect on imports was in some cases still more marked. He thought that it would be very interesting if, as a supplement to Tables I and II, they could have a table of the public external borrowings, even only for national and municipal purposes, of the countries named in the paper for the period under review. Such a table would have of course to be read with qualifications; it would not be correct to leave out of account the purposes of the loans. In many cases borrowing was for the purpose of redemption or the conversion of old debt, and then again treasury bills and advances were sometimes raised previous to a public loan. Thus it might be difficult to fix the exact period practically affected by the loan. The inclusion in such a table of money publicly borrowed in aid of private enterprises, would much add to its value. He had no doubt Mr. Baines's interesting remarks in connection with Table III were correct: that inter-colonial trade suffered much less than the foreign export trade by the cessation from borrowing abroad caused by the disastrous collapse of 1893. But he could not quite follow the illustration of that remark in Table III, as it was not quite clear to what extent the variations of the percentages in Table III were due to the variations of the whole bulk, and how far to the variations in the inter-colonial trade alone. Tables VI and VII taught perhaps the most interesting and suggestive lessons of the paper. He thought they tended to show that the talk of the great decadence of British trade was somewhat exaggerated. All knew that a country with a small initial trade at the commencement of a period under review must show a very much higher ratio of progress, if it showed any progress at all, when compared with the ratio of variation of a country having a large initial trade or high mean for the thirty years. There were many pessemistic descriptive adjectives used in connection with British trade which would be shown by these tables to be somewhat inaccurate. There had been at least no displacement of British trade with the exception perhaps of Canada, to which country special circumstances mentioned by Mr. Baines applied. One incidental thought which would probably occur in connection with the perusal of the tables was this: whether the provision for military and naval protection

of the enormously expanded trade had been increased in anything like its due proportion by those colonies which possessed representative governments. They all recognised that the initial responsibility for the arrangements in connection with that protection rested upon the mother country, but it would be of interest to know to what extent they were practically aided by the colonies.

Mr. J. O. Neumann said with regard to the last point raised by the previous speaker, he might mention that New South Wales had spent 350,000*l.*, apart from the subsidy[1] given to the naval authorities, on one little island in Sydney Harbour as a marine station. This was given to the Admiralty in exchange for some land which belonged to the imperial authorities at the time the imperial troops were withdrawn. The statistical record as to the money spent by the colonies in this respect, and also of the amounts borrowed for government and municipal purposes were all set out in the year-books of Hayter and Coghlan. The large import of sugar from Queensland to New South Wales which had been emphasised by Mr. Baines and Mr. Paul, was chiefly due to the fact that New South Wales capital was largely invested in Queensland sugar, and so the sugar simply returned from the plantation to the warehouse. Amongst the merchants in Sydney sugar was treated as cash.

Mr. Stephen Bourne wished to express his appreciation of the great labour that had been bestowed upon the paper. He could quite endorse the remark as to the difficulty of dealing with Colonial returns, as statistical abstracts for foreign countries were prepared in many places on different systems, though somewhat brought into shape at the Board of Trade in England. Accurate information could not be arrived at unless they took into account the quantities as well as the values. There was not much force to be attached to the percentages of population, when it was recollected how very small a proportion of the whole the percentage of a particular colony or place referred to was, but the mass of figures collected must be looked upon rather as material for further investigation. As regarded the general trade of the kingdom, there was no doubt England was advancing, for every year they added slightly to the total of the previous year. If he recollected rightly, the imports in 1896 were 25 millions in excess of 1895, but when dealt with in relation to quantities it appeared that the amount was in proportion considerably more in excess. This year the imports were 10 millions in advance of 1896, but, of that, 11 millions would be owing to larger quantity, with 1 million to deduct as due to depreciation in price. That showed the very great importance of considering the ruling price at the time when investigating the importance of the figures of values. Mr. Baines had mostly dealt with the figures of value, but before they were used to found strong arguments upon, they must be dealt with in

[1] The total is about 6,000,000*l.*

connection with the range of prices, and then also with regard to the ratio of population. Skill and industry wherever applied, were sure to meet with reward, unless, as was unfortunately too often the case, the colonies entered into absurd rivalry with the mother country, and produced, at a large expense, goods which might more easily and cheaply be exported from home. Some time ago he went over a cotton manufactory in one of the colonies, which was admirably fitted up with the latest improvements in machinery, sanitary arrangements, &c. On taking his leave he expressed a hope that so much skill, industry, and good management had resulted in its due reward in the shape of profits. The reply he received was that it was "ruination business." He then asked how it was that with a protective duty of 33 per cent. on the manufacture produced, it was ruination business? The manager answered that they were running off more cotton than the colony could take, and therefore they were obliged to sell at depreciatory prices. In New Zealand they had had the good sense to grow wool and export the frozen mutton. Both these articles were wanted at home, and as long as the colonials took advantage of the peculiar facilities they had for the production of these articles they would go on increasing in prosperity. He hoped the paper would prove a stimulus to many of the younger members who were diving into these matters.

Mr. L. Davidson said that, being largely interested in trade with Brazil, many things had come under his notice which applied to the colonies as well as to foreign countries. He was glad to find that Mr. Baines had drawn attention to the feature of the commercial traveller over the length and breadth of the land. In the iron trade, for instance, they were losing a great deal of the trade with India in consequence of the competition of Belgium and Germany. The cause was due no doubt to the difference in wages, to the absence of strikes in those countries, and to the railways belonging to the State. In consequence of the combination of shipowners in this country many articles which went to the colonies were sent from foreign ports, from which rates were lower, to the prejudice of British commerce. More attention should also be given to the careful packing of goods. He had known goods to arrive in Brazil in a perfectly useless condition, owing to proper care not having been taken in the drying of the paper in which they were packed. The Germans, owing to their superior knowledge, were actually employed in many foreign countries by English firms. This showed the necessity of imitating the Germans in their acquisition of foreign languages and commercial knowledge generally. He then quoted some remarks made by the Chancellor of the Exchequer, to the effect that too much importance ought not to be attached to statistics of trade which had been collected over an insufficient area or too short a period of time, and that the volume of trade was even more important than its value. There was no question that the volume of the trade of this country was enormous when compared with that of any other in the world, and also that it had enormously increased

when compared with the trade of any previous period of our history. Prices had decreased, but surely the volume of our trade would not have continued to increase if manufactures and sales had been absolutely unprofitable.

Mr. A. E. Bateman wished, on behalf of the department he represented, to thank Mr. Baines for having taken up the statistics, and analysed them for the past twenty-five or thirty years. He was certain Mr. Baines had had considerable difficulty to contend with, and in putting figures together there was bound to be a number of discrepancies which perhaps only an expert knew. Colonial accounts were compiled (thirty years ago) on bases which differed not only from that of the present day, but also showed divergence among the colonies themselves. Up to a very recent period the imports of many of the colonies did not include the cost of freight, while in some cases an allowance for freight was added to the exports. All this would make a considerable difference in the percentage of exports in certain years. At the present time statistics were more comparable than they were in early days. There must always be in a large number of returns compiled by local authorities certain anomalies which made it difficult to add up totals. Mr. Baines had not tried to convert that abominable thing called "Rx." in Indian accounts, and he had been very wise in leaving it alone. He should like to congratulate Mr. Baines upon the skill with which he had manipulated the difficult figures, and he hoped the paper read that evening would be the precursor of many others dealing with colonial trade. At least three or four papers might usefully be prepared dealing separately with the Australasian, the Asiatic, the North American, and the African colonies.

Dr. Hermann Gerlich did not quite agree with the usual conclusions drawn from modern statistics. Too much stress was laid upon the commerce of the several countries. Commerce of various countries was now-a-days so much interwoven that it seemed to have taken rather a cosmopolitan character. Many things, for instance, which were said to be "made in Germany" and to represent German commerce, were often made there in factories belonging to English capitalists, and if sent from Germany to British colonies rather represented British than German commerce. Therefore, England in fact exported much more than appeared from the statistics. This was even more the case with the United States. The tremendous surplus of their exports represented to a great extent merchandise from factories owned or financed by British capital, and sent over to England or her colonies in order to pay interest and dividend of this capital. Therefore, also, the exports of the United States were in reality to a great extent only part of British commerce. There were unfortunately no returns upon the export, or on the investment of English capital abroad. If there were, it would be seen at a glance how deeply rooted English capital, manufacture, and trade was all over the world—much more than the statistics showed. He quite agreed with the

remarks made by Mr. Baines as to the fluctuation of exports and imports of the colonies being due to the investment of British capital in the colonies. Their exports had to be made in order to meet the payment of interest or dividends upon their loans, and increased therefore with the payments due to England, and it was no wonder that for this reason the prices of their exports fell. In fact, prices must fall in order to effect the payment of these debts. On the other hand many specially trained German travellers were exported from Germany without being shown in export statistics, and were working for the benefit of English commerce. The latter without them would probably almost be like an undermanned ship. Therefore, instead of speaking of the competition between England and Germany, he thought that the two countries were working together much oftener than was usually thought, and could very well work together without being jealous of one another, as the now too often heard phrase, "Made in Germany," showed them to be.

The PRESIDENT (The Right Hon. LEONARD H. COURTNEY, M.P.), in proposing a hearty vote of thanks to Mr. Baines for his paper, said he should be only repeating what had been said by previous speakers if he said that Mr. Baines had a special claim to their gratitude for preparing such a valuable paper. With respect to one matter discussed in the early part of the paper, namely, the variation of the trade of the Australasian colonies in late years, he felt that a great deal might be said, not merely as to the effect of the cessation of national and municipal borrowing upon trade generally during the last few years, but as to the effect of the collapse of credit some five years ago upon the supply of capital through the banks. For years there had been a continuous supply through banking agencies of English and Scotch capital to the great Australasian colonies; now that supply had almost entirely ceased. The change was apparent in the figures that had been presented to them. They had had in the United Kingdom an immense over-production of capital for many years, and the difficulty had been to find a use for the surplus. If they could find an outlet in any one direction the pent up capital would flow in great affluence along it, and the United Kingdom would thus be able to take its share in assisting the development of trade on the part of others. With respect to colonial trade they must not be alarmed at the apparently enormous increase which followed the growth of small things. It was quite true that where commerce had been extremely small, and the ratio of its growth might be enormous, yet the actual growth might have been comparatively trifling, and the result on the commerce of the colony exceedingly limited. The real question was, what was the proportionate share, not the growth, attained in the commerce of the world. Here they had something to make them seriously consider their own future. The proportionate share of colonial expansion which fell to other countries than the home country was increasing every year, especially in relation to the United States, more so than in relation to Germany. In respect to Germany a great part

of the apparent increase was not a real increase, although it had an effect upon our position. We used to be the emporium through which a good deal of trade went from foreign countries to our colonies, but which now went direct from the centres of production to the places of consumption. Thus we lost what we at one time gained as the intermediaries in that commerce. But, after allowing for that, the proportionate share of the total commerce of the colonies which had to be allotted to foreign countries as compared with our own was an increasing one, and in respect to some colonies was increasing to a very striking degree. Even then it might be that, though we were relatively declining in the share we had in the commerce of our colonies, the absolute increase realised year by year was quite sufficient to keep our capitalists and labourers at home in as prosperous a condition as they had been before. If that was the case, the result would only show how enormously the world at large had improved in its condition. If we could more than keep our absolute strength, and at the same time other countries could grow upon us in the proportion indicated, the total amount of production must be enormously increasing, because the total amount distributed must be enlarged to allow these results to be possible. This fact was certainly brought out very satisfactorily by the figures which had been given in connection with the production of wool.

The vote of thanks having been unanimously passed,

Mr. Baines hoped they would not think there was any want of appreciation on his part if he did not then reply to the remarks of those who had taken part in the discussion. He had taken full notes of the various criticisms, so that later on he might be allowed in the *Journal* to add a little to the discussion.

Note on the Discussion added by Mr. Baines.

From the nature of the subject I anticipated that its merits would be adequately dealt with by some of those present who might be intimately acquainted with colonial trade, leaving to me the mere acknowledgment of criticism of the methods of treatment adopted in regard to the statistics set forth. In this latter category I have to thank Mr. Flux for his remarks, though I may perhaps be permitted to express a hope that the communication of views on paper, to be read by another person, is not a practice which will be often resorted to, since it tends to deprive the discussion of life and personal interest.

As to the comparatively small part of this communication which deals with my paper, I may say that I agree with Mr. Flux that for some purposes overlapping periods are preferable to consecutive. I am not persuaded, however, that the alternative he proposed is of much advantage, and I would have taken, had I had the time, the proportion borne by a smaller period to a longer. For instance, I find that by arranging the thirty years of

imports into the United Kingdom, first by taking each year as the middle of three, and then as the fourth of seven years, we get by the ratio of the former to the latter a range of no more than 4 *plus* and 7 *minus* the base line of 100. The special exports, again, give under the same treatment 10 *plus* and 13 *minus*. Tentatively I took the imports by groups of three on nine and of four on ten years; the results gave a range of 15 in the first and of 14 in the second case. The curve obtained therefore is much more instructive and easily assimilated than the merely consecutive groups which the short time at my disposal forced me to employ.

I do not agree, however, with Mr. Flux's suggestion that the length of the period I have selected for Tables X and XI shows foreign trade to great and undue advantage as compared with our own. In the first place, such a misconception as to the rapidity and extent of the rise of the former ought to be removed by considering the percentage of rise along with the percentage on British trade in the preceding table. Then again the very essence of the German trade question is its growth since the year I have selected for my starting point. What were the figures of German trade in former years is nothing to us, who have to take it under the new conditions, political and commercial, which have arisen since the arrival of the milliards and the consolidation of the empire on its new political basis, these two being the great stimulating forces of the Zollverein which we have to take into account. Nor again, in taking the year 1872 as my starting point, do the figures bear out Mr. Flux's contention or assumption that the war of 1870-71 causes the figures of France and Germany to appear to have risen more rapidly than is statistically fair to this country. The imports of France in 1872 surpassed by more than 400 millions of francs the average of the three years before the war. The improvement of the exports of home produce was still more marked. Belgium took its great leap forward in 1872, and so did, to a less degree, this country also. The United States figures show their main fluctuations seven years later, so that whatever the causes the selection of 1872 is not affected by them. If in fact we are to select our periods with the object of eliminating all but normal circumstances, the figures would not be of any practical value, but by taking the long base of twenty-five or thirty years, each unit appears in its proper proportion, and the curve sets off the lean years against the fat throughout its extent.

The rest of Mr. Flux's paper deals with results obtained by him from various sources not before us, and he has apparently given them publicity through other channels. The materials not being to hand at the meeting, and the conclusions appearing somewhat hypothetical, they are outside criticism in connection with my paper. I have to thank Mr. Flux, however, for pointing out to me, through Mr. Hooker, a bad mistake in my copying, which set me to revise the whole of the figures in the numerous tables in the text, a process which in the haste of preparation I had neglected.

The point mentioned by Mr. Paul is very important. It had

not escaped my notice, but I was not able to deal with it, as he has very instructively done, in detail. I had, however, a few figures in a note by me at the time I read the paper, but forebore from inflicting them within my allotted time. I have now added it to the paper, in substitution of a table which seemed to me to be superfluous. As to the frozen meat trade, I had very fair authority for my belief that we eat the best at English prices, and that the worst is flauntingly exhibited under its native title.

I doubt if the Canterbury mutton of my own county enjoys so high a repute as to justify the butcher in believing it will attract or carry conviction with it like Southdown or Welsh. The colonial exporter ought to run his own *dépôt* for retail.

The details of borrowed money referred to by Mr. Cohen are to be found, I think, in the Australasian Year Book, by Mr. T. Coghlan, of Sydney; but, as Mr. Cohen warns us, the significance of the figures is a matter for experts. So far as loans for public purposes are concerned, even if they are applied to conversion or redemption, Australia has to pay the interest in exported produce, so the results on trade are the same. The question Mr. Cohen raises about the loans expended by the Australian Governments in subsidising private enterprise is not one I care about discussing on this occasion, as it bristles with political and economical pitfalls, and the general results of the transactions seem an object lesson of some value as to what to avoid in such assistance. I have not by me the figures of what has been the expenditure of the colonies upon their own defence. The militia and other forces are budgetted for in the ordinary way. Canada has its military training college at Kingston. The whole contribution made by the colonies, exclusive of India, for military aid from this country, was about 235,000*l.* in 1896. The total cost of the colonies to the United Kingdom was in that year about 2 millions sterling, again exclusive of India. Speaking generally, each colony was responsible for the defence works of its harbours, and the Imperial Navy for the safeguarding of the high seas and approaches. Mr. Goschen, in his statement to the conference of colonial premiers last June, put down the colonial contribution for naval purposes at 126,000*l.* a sum to which, he said, the Admiralty could not attach great importance.

The rest of the discussion supplements and corrects, as I hoped it would, the outlines to which my paper is mainly devoted, and as such I tender my best thanks to those who contributed these remarks, without adding any comment of my own to the interesting facts to which they refer.

Demographic Statistics *of the* United Kingdom: *their want of* Correlation *and other* Defects. *By* Edwin Cannan, M.A.

[Read before the Royal Statistical Society, 15th February, 1898.
C. S. Loch, Esq., Vice-President, in the Chair.]

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It is many years since I first became interested in the subject of this paper, but the paper itself has been written in little more than a week in order to supply the gap caused by Mr. Loch's unfortunate illness, so that I hope any want of correlation or other defects which it may exhibit will be treated with some indulgence.

I. Decennially our census enumerates the population, and annually the Registrar-General tells us how many persons are added to it by birth, and how many subtracted by death, while the Board of Trade tells us how many were added by immigration and subtracted by emigration. At any point of time between two censuses then we ought to be able by the simple process of consulting a tolerable almanack, to say nothing of the last number of the *Journal of the Royal Statistical Society*, to find an estimate of the existing population which would be accurate within a few thousands. No such estimate is published except as regards Ireland. In Ireland there is a special machinery for collecting emigration returns, and from these and the registration of births and deaths the Registrar-General for Ireland constructs an estimate which is very near the truth, and wrong or right, is founded on the best available data. In Great Britain, however, or rather in England and in Scotland, for the two countries have distinct machinery, the Registrar-General's estimate of population is not an estimate at all. An estimate of receipts or expenditure is the number of pounds we expect to receive or expend; an estimate of population at a future date is the number of persons

we expect to be in a certain area at that date; an estimate of population in the present is the number we believe to be in the area at the present time. The so-called "estimates" of population in England and Scotland are not what anyone believes the population to be. They are merely the population which would have existed supposing the previous intercensal rate of increase had been maintained. To the cynic who delights in the follies of his fellow creatures, if (which is impossible) he were a statistician, it would be amusing to see the confiding way in which the newspaper press annually announces that the Registrar-General estimates the population of England and Wales at such and such a figure, as if it was recent information, when the fact is that the so-called "estimates" for every year up to 1901 are to be found in the last Census Report, which was published in 1893.[1] The Registrar-General would publish exactly the same figures if the Board of Trade recorded a net emigration of six millions, or if he himself enumerated the deaths of ten millions in a year. Down to and including his Report for 1893, published in January, 1895, the English Registrar-General used to assert annually that the method was "not likely to lead to serious error," although the "estimate" was no less than 701,843, or nearly $2\frac{1}{2}$ per cent., in excess when the census of 1891 was taken. In subsequent reports he has merely stated that the method is followed "in the absence of precise "information" regarding emigration and immigration. Now this insufficiently precise information, in conjunction with the births and deaths figures, enabled Dr. Longstaff to estimate the population within 10,251 at the time when the Registrar-General's assumed figure was 701,843 in error. (See *Economic Journal*, vol. i, p. 382, ff.)

Even supposing the Board of Trade figures were absolutely worthless, as the Registrar-General assumes, his method could not be justified. In the first place, the absence of precise immigration and emigration statistics furnishes no ground for entire neglect of the birth and death statistics. If there were no migration figures, it might be necessary to assume that migration was the same as in the previous intercensal period, but the absence of migration figures cannot possibly justify the assumption that the excess of births over deaths has been the same, when, as a matter of fact, we know it has not been the same. In the second place, there is no particular sanctity about the previous intercensal period. If we find that the increase in one decade is 10 per cent., in the next 5, and in the next $2\frac{1}{2}$, we are more justified in expecting an increase of about $1\frac{1}{4}$ than another increase of $2\frac{1}{2}$ per cent. The

[1] Subject to the modification mentioned on p. 56.

assumption of a regular "geometrical increase," as Malthus used to call it, is of course absurd; that can only be a very short-lived phenomenon, and even an "arithmetical increase" can only be temporary. The error of assuming the same percentage increase can be most clearly seen where it is applied to an urban area. It is obviously wrong, for instance, to assume that the present County of London will continue long to increase at 17·2 per cent. in the decade, as it did between 1871 and 1881, or even at 10·3 per cent. as it did between 1881 and 1891. The area is getting filled up, and not only the rate of increase, but the actual absolute increase, will soon become less and less till it disappears. The same thing of course must sooner or later be true of every country and of the whole world.

Obviously erroneous as the method of estimating present and future populations by the rate of increase in the previous intercensal period is, it is not so grotesque as the absolutely analogous plan of estimating past populations on the assumption that the rate of increase was uniform throughout the intercensal period. The Reports of the Registrar-General ask us to assume that the annual addition to the population increases in an absolutely regular manner for the nine years between the middle of the first year of each decade and the middle of the tenth, and then jumps wildly about before settling down to a new series of regularly increasing additions, *e.g.*:—

Assumed Additions to the Population of England and Wales.

1871-72	307,901	Regular series on the basis of rate of increase between April, 1871, and April, 1881
'72-73	312,061	
'73-74	316,278	
'74-75	320,551	
'75-76	324,882	
'76-77	329,272	
'77-78	333,720	
'78-79	338,230	
'79-80	342,799	
'80-81	331,854	Three quarters on old basis, one quarter on new
'81-82	288,800	Regular series on the basis of rate of increase between April, 1881, and April, 1891
'82-83	292,007	
'83-84	295,243	
'84-85	298,514	
'85-86	301,826	
'86-87	305,174	
'87-88	308,552	
'88-89	311,981	
'89-90	315,434	

Moreover they ask us to believe that the later years of a

decade are necessarily more favourable to the growth of population than the earlier.[2]

Recently a slight modification has been introduced into the method of "estimation," which makes it even more unsatisfactory than before. This is the recognition of the County of London Census of 1896, and the calculation of the County of London population on the assumption that the County continues to grow at the same rate as in 1891-96, and only the population of the rest of the country at the same rate as in 1881-91. To this modification there are two objections:—

First, the London Census of 1896 is not properly comparable with the previous censuses. Far from regarding the institution of this intermediate census with approval, I regard it as a most unfortunate invention. It has introduced not only unusual inaccuracy, but also corruption, into our demographical statistics.

If two censuses be taken, one of which is a mere enumeration of males and females with their relationship to the householder, while in the other a number of questions are asked about birthplaces, ages, conjugal conditions, occupations, number of rooms occupied, and bodily infirmities, it is perfectly certain that the enumeration will be more complete in the simple census than in the complex one. If two censuses are taken, one of which applies to the whole country, and another only to a part of it, then, *ceteris paribus*, it is perfectly certain that the partial census will enumerate a larger number of persons in the part than the general census will enumerate in the part. This happens because in the partial census more "doubtfuls" will be reckoned as belonging to the part than in the general census. In the general census, the "doubtful" is just as likely to be enumerated in one of the two places between which he is moving as in the other, and is not likely to be reckoned twice, whereas in the partial census he is more likely to be reckoned in the part.

These are general rules which might occur to anyone unacquainted with the special circumstances of the London census, and which would lead him to suppose the figures of that census would be somewhat larger than they would have been if obtained by the usual method of the general census. The special circumstances of the London census aggravated the effect. The directions in the householder's schedule as to who was to be enumerated

[2] The increase between the censuses of 1871 and 1881 was 3,262,000, while between the censuses of 1881 and 1891 it was only 3,028,000. The Registrar-General's assumption distributes these increases between the quinquennia thus:—

April 1871-76	1,576,000
„ '76-81	1,686,000
„ '81-86	1,473,000
„ '86-91	1,555,000

were not the same as in the general census. The difference in the heading of the schedules, though objectionable, because unnecessary, does not seem of importance. In the censuses of 1881 and 1891 the schedule is headed "LIST of the MEMBERS "of this FAMILY, of VISITORS, of BOARDERS, and of "SERVANTS[3] who SLEPT or ABODE in this Dwelling on "the NIGHT of SUNDAY, APRIL -th, 18—." The schedule of the London census of 1896 is headed "LIST OF ALL "PERSONS WHO PASSED THE NIGHT OF SUNDAY, "29TH MARCH, 1896, IN THIS HOUSE OR TENEMENT." But the instructions are radically different. The schedule used in the census of 1891 says:—

> *No Persons* ABSENT *on the Night of Sunday, April 5th, to be entered here;* EXCEPT *those who may be* TRAVELLING *or out at* WORK *during that night (and are not elsewhere returned), and who* RETURN HOME ON MONDAY, APRIL 6TH.[4]

I should be sorry to have to maintain that this instruction is free from objection. The use of the verb "return" in two different senses, one of which is not a popular sense, seems to me likely to confuse the uninstructed mind. "Travelling," too, is ambiguous. The framers of the schedule of course mean to include only persons in vehicles, or walking, or riding, or sitting in a railway station; but many people consider themselves to be travelling when they are away from home and moving about from place to place in the daytime. But the "are not elsewhere "returned" (provided the word "returned" be understood) is a great safeguard in the general census against the improper inclusion of travellers in the wide sense. A person who, after sleeping at Birmingham, has been enumerated there, is not likely to allow himself to be counted over again at Oxford when he arrives there to breakfast. As the London intermediate census did not possess this safeguard, those in charge of it ought to have been particularly careful to make it absolutely clear that no persons who passed the night neither in London nor actually on the road or railway to London were to be included. Instead of being particularly careful, they threw precaution to the winds by printing these instructions:—

> (1.) Every person who passed the night of Sunday, 29th March, in this house or tenement must be included in this Schedule.

[3] The schedules of 1861 and 1871 do not mention "boarders," but the schedule for 1871 asks for "all other persons."

[4] The schedules of 1861, 1871, and 1881 contain the same instructions omitting the words, "and are not elsewhere returned."

> (2.) Every person usually resident in this house or tenement, but who was travelling or out at work on the night of Sunday, 29th March, and has returned on the morning of Monday, 30th March, must be included in this Schedule, unless he has already been returned in another Schedule elsewhere; in the latter case he **must not** be included herein.

Now of course I admit that no one here, after reading the second instruction twice, would fail to see that it is intended to convey exactly the same meaning as the instruction of the 1891 census. But even to the trained eye of the member of the Statistical Society the impression which the instruction gives at the first glance is certainly very different, and I think the excluding phrase is so quietly and delicately introduced by the "but who," that three men out of four in that class from whom the coroner collects his jury must have quite honestly supposed that usual residents were to be counted if they returned on Monday morning.

The enumerators were, we must suppose, better informed, and to some little extent might, if they had chosen, have prevented the consequences of this error on the part of the householders. But what interest had they to do so? So far from having any interest in reducing the number of persons enumerated, their interest was all on the side of increasing it. The schedule itself purports to be "prepared in pursuance of section 3 of the London "Equalisation of Rates Act, 1894," but I am not inclined to say that many London householders knew what that meant. I do not believe in the London householder's knowledge of anything municipal: it has been made too difficult for the ordinary intelligence. But the enumerators knew. They were, as usual, persons ordinarily in the employment of various local authorities. As such they were acquainted with the fact that the greater the population they could manage to enumerate the greater would be the local share in the distribution of the sixpenny rate, and they knew too that the greater the local share in the distribution of the sixpenny rate, the greater would be the funds at the command of their employers, and consequently the greater the prospect of lower rates and increased comfort for officials.[5]

How large the addition to the proper population thus made by error and corruption may have been, I do not profess to be able to form any really approximate estimate. In comparison with the whole 4,400,000 of population, it would doubtless be a small percentage, but in comparison with the alleged increase of 200,000,

[5] See *Discussion*, pp. 74 and 82.

which was greater than half the increase in the previous ten years, I have no doubt it would be very considerable.

Secondly, even if the London census of 1896 had been trustworthy instead of worthless for the purpose of showing the increase of the population of the County of London between 1891 and 1896, it would not have been correct to use it in the way the Registrar-General uses it in his report for 1895. If there were no net migration between the two divisions into which he has cut England and Wales, there might be something to be said for his plan. But as the rate of increase inside the small area governed by the County Council falls off owing to the ground being more and more completely built over, the rate of increase outside that area naturally tends to become more rapid. In the decade 1851-60 registration London (which would be the same as the County if the Registrar-General would only include Penge) took in 188,000 persons from the rest of the world, most of whom came from England outside London. In the next two decades the numbers swallowed sank to 119,000 and 108,000. In the decade 1881-90, instead of an intake there was an output of 118,000. In some future decade, when the area is quite full, the output may easily amount to half a million. The overflow from the County of London is an addition to the sources of population for the rest of the country, and consequently it is even less correct to assume a constant rate of increase for the country outside the County of London than it is to assume a constant rate for the whole country. So far I daresay the various errors in the method very nearly balance each other, but I have always understood that a cashier who makes mistakes which balance each other is regarded with suspicion by his employer. Where errors are unavoidable we may comfort ourselves that they often balance each other, but where they are avoidable it is better to avoid them.

The estimate of population for the United Kingdom furnished by the Registrar-General for England is an extraordinary conglomeration incapable of defence on any principle. It is a total made up by adding together the assumed figure for London, the assumed figure for the rest of England and Wales, the assumed figure for Scotland, and the genuine estimate for Ireland. Now if the Registrar-General for England believes the assumed constant-rate method to be the best, why does he not apply it to Ireland, and indeed to all those other European countries which produce genuine estimates? A junior clerk with a Brunsviga machine could do the necessary arithmetic in a few hours.

We can only suppose that the Registrar-General regards the Board of Trade's immigration and emigration statistics as less trustworthy than those of other countries. Yet the Census Report

which emanated from his office in 1893 attributed to those statistics a very high degree of accuracy. It is true that they are collected by a somewhat precarious method. The great majority of persons entering and leaving the United Kingdom are of course the passengers from and to Europe. The number of passengers arriving from Europe and the non-European coast of the Mediterranean in 1896 was 518,869, and 479,913 passengers left the United Kingdom for those parts of the world, while the number of all other passengers was only 241,952 outwards and 159,913 inwards. Now the Board of Trade conducts this census of almost 1,000,000 European and Mediterranean passengers without any aid from legislation whatever. The figures are obtained purely in consequence of the existence of friendly relations between the Board on the one hand, and the railways, the shipping companies, and the Belgian Government (which conducts the Dover and Ostend service) on the other. It is creditable to human nature that the returns have been readily supplied "in almost all cases," but it is not satisfactory that the whole of our knowledge of emigration and immigration is liable to be wrecked by a dispute between the Board of Trade and a railway about the hours of a signalman, or by some friction with the Belgian Government about shipping regulations. But meantime the returns are there, and, so far as I know, their accuracy, as regards the mere number of immigrants and emigrants, has never been seriously questioned by anyone. If they are not accurate, let them be improved. When we maintain an organisation to prevent the surreptitious arrival of a pound of tobacco, it cannot be very difficult or expensive to count immigrants and emigrants.

In default of the Registrar-General, we might reasonably expect the Board of Trade to summarise the movement of population in its annual report on the migration. It might without much trouble or expense obtain the birth and death figures, and make an estimate for the United Kingdom, if not for its three great constituent parts. But it does not. Nay, the only statement the editor of the returns makes on the subject assumes that there is no such thing as death, at any rate for immigrant aliens. If he finds that there has been a net immigration of foreigners to the number of, say, 10,000, the editor invariably proceeds to remark that the number or population of foreigners in the United Kingdom has been increased by 10,000, as if the foreigner received immortality from the health-giving air of our islands.

Not content with ignoring the registration figures, the Board of Trade also ignores the census. After the publication of a census, in which every Bulgarian in England occupied as much space as 1,000 natives, it was natural to expect that the Board of

Trade would compare the census account of the foreigners in England with its own account of foreign immigration, and show how far the two agreed, but I think this has never been done. This brings us naturally to the second head of our inquiry.

II. While the Board of Trade statistics are probably accurate enough with regard to the number, starting places, and destinations of immigrants and emigrants, they must not be much trusted as regards nationalities. They divide all passengers from and to non-European and non-Mediterranean ports into English, Scotch, Irish, and foreign. For many years I wondered how this remarkable feat was performed. Were the Australian-born children of a Scotch emigrant Scotch? Were Cape Dutchmen, French Canadians, and West Indian negroes foreigners, although British subjects? And, if not, were they English, Scotch, or Irish? When I went to Canada with the British Association last year I hoped to solve these questions. When the ship's officer came to ask me, for the information of the Board of Trade, whether I was married or single, what my occupation was, and whether I was English, Scotch, Irish, or foreign, I would ask him in which of the four columns he entered the Canadians. He never came! Neither on the outward nor the homeward voyage were we asked any of these questions, and I returned home sorrowful. But this is a free country, in which anyone who can afford pen and ink is at liberty to interrogate a public department, however meritorious, to the best of his ability. So I wrote to the Board of Trade, and said I presumed they were now in possession of all this information about me and my fellow passengers, and I should be much obliged if they would state how they obtained it. At the same time I asked, how subjects of Her Majesty belonging to colonies and dependencies were classified as English, Scotch, Irish or foreign?

After long and patient investigation the Board sent me a very courteous letter, which did not answer my question as to how the information about our occupations, conjugal condition, and nationalities was obtained. Instead of doing so it said that I was returned both in the outward and the homeward voyage as an unmarried Englishman. It left me to form my own conclusion as to the way in which the information had been obtained, and that conclusion is, of course, that the purser had described me as unmarried because I was not accompanied by a lady purporting to be my wife, and had described me as English because he had found on my ticket that my address was Oxford, while probably he had left my occupation blank because he did not know it, and thought it too much trouble to inquire. Now it unfortunately happens that I am unmarried, and that though not a native of England I am a British subject domiciled in England, and therefore properly

described as English, while as to what is my more important occupation, I always feel considerable doubt myself. So in my particular case the rough and ready method had answered quite well. But you can easily see that the number of unmarried Englishmen in these statistics will be a good deal larger than in real life. The answer to the other question as to which category colonial persons were to come under, I will give in the Board's own words :—

"As regards subjects of Her Majesty other than those born in "the United Kingdom, there can be no doubt that the greater "number of such passengers who land here come as visitors, and "so long as they are described in the same way in the inward and "outward lists, the balance of the inward and outward move- "ments, which is the important element of the emigration returns, "is not disturbed. It is understood that colonists generally are "included in the passenger lists according to the nationality of "their ancestors, but some are included amongst the 'Not "'distinguished.' This is of course not altogether satisfactory, "but legislation would be necessary to effect any change in the "system."

The difficulty I feel about this explanation is that there seem never to be any "not distinguished" passengers from Canada or the Cape, so that the French Canadian and the Cape Dutchman must have for the nonce English, Scotch, or Irish ancestors!

As a humble elector I really venture to think that the time of Parliament will often be less usefully spent in future sessions than it would be in giving the Board of Trade proper tools to work with in the collection of these statistics. At present the Board collects statistics as to nationality under three different laws :—

First there is the Alien Act, 6 and 7 Will. IV, cap. 11, which applies properly to all aliens arriving from foreign parts, but which is treated as if the executive in this country had full dispensing power. Under this the Board attempts to secure an account of all such foreign European immigrants as are supposed to be not merely temporary visitors. At Dover, Folkestone, Harwich, Newhaven, and Southampton the masters of ships arriving from European and Mediterranean ports are required to furnish the customs officers with lists specifying the name, rank, occupation, and description of every alien who is a deck passenger or is proceeding from the port of arrival by railway as a third class passenger. At twenty-one other ports, practically all the ports at which any appreciable number of European immigrants can be supposed to arrive, the masters of such ships are required to furnish similar lists of all alien passengers, whether they are deck or third class railway passengers or not. In addition to the

particulars required by the Act, the Board of Trade appears to be able also to get a statement as to whether the passenger holds a through ticket to places out of the United Kingdom; but whether a through ticket includes a return ticket I have not discovered.

Secondly, there is sec. 336 of the Merchant Shipping Act, 1894. This applies to every ship bringing steerage passengers from non-European and non-Mediterranean ports, and provides that the master of every such ship must provide a correct list of the name, age, calling, and port of embarkation of every steerage passenger.

Thirdly, there is sec. 311 of the same Act, which requires the master of every ship carrying steerage passengers to non-European and non-Mediterranean ports to fill up a most elaborate schedule of thirty-seven columns, giving the name, sex, age (infants under 1 year, children 1—12, and adults), occupation, and conjugal condition of every passenger, whether cabin or steerage, and showing whether he is English, Scotch, Irish, or foreign.

It is to be observed firstly that both these sections apply only to ships carrying steerage passengers; secondly, that though the emigration section requires a return of all passengers from such ships, the immigration section only requires a return of steerage passengers; and thirdly, that while the emigration section requires an impossibility in the division of nationalities, the immigration section demands no information about nationalities. But the Board of Trade has hitherto apparently been able to persuade the officers of all the ocean-going ships to make returns as if the requirements of the emigration section were applicable to all ships in all classes of passengers, both inward and outward. That the returns thus made have not always been made as carefully as possible is obvious from my own experience, and this is exactly what might have been expected. It is clear that the fact that a portion of the returns is furnished voluntarily must have the effect of preventing the Board of Trade from putting anything but the very gentlest pressure upon a ship's officer who makes imaginary or careless returns. How can the Board threaten penalties for an inaccurate return as to an emigrant cabin passenger, when they know that the officer in default can do what he pleases about the immigrant cabin passenger?

Further, it must be noticed that while the statistics collected under the Alien Act divide the foreigners according to their various nationalities, those collected under the Merchant Shipping Act simply group all foreigners together. Consequently when the net immigration of foreigners is stated at a certain figure, the emigration figures give no assistance in showing whether it is composed of Americans or Russians.

Even therefore when we realise the full meaning of such a confession when coming from a government department, I think we need not hesitate to agree with the Board of Trade that the condition of things "is, of course, not altogether satisfactory." Before considering how to amend it, we must look at the census returns. Here we find in the English householders' schedule the following instruction:—

> Opposite the Names of those born in ENGLAND and WALES, write the COUNTY, and TOWN or PARISH.
> If born in SCOTLAND, IRELAND, the BRITISH COLONIES or the EAST INDIES, state the *Country* or *Colony*,
> If BORN IN FOREIGN PARTS, write the particular *State* or *Country*, and if also a BRITISH SUBJECT, add "*British Subject*," or "*Naturalized British Subject*," as the case may be.

The ordinary householder's mind is probably confused by the not very perspicuous phrase, "British subject or naturalised "British subject, as the case may be." He asks his wife, "Is that "the same as *natural-born*, now?" And in any case it is more trouble to write "British subject" than to omit it, and so it is supposed a considerable number of the natives of foreign countries who are really British subjects are not so returned. But down to and including the census of 1881, the census authority took upon itself, without giving any warning to the public, to alter the returns by adding to the British subjects all foreign born persons with British looking names. What a difference this outrageous and I hope unexampled proceeding made, is indicated roughly by the fact that the published number of British subjects fell from 56,373 in 1881 to 34,895 in 1891, though the real number probably did not diminish. Perhaps greater accuracy might be obtained if entry of the nationality was required after the name of every country, as, *e.g.*, "France, French subject;" "Madeira, Portuguese "subject," and so on, as that would make the alien as troublesome to the householder as the British subject.

On the whole, if we look at the census and the immigration and emigration figures together, it would appear desirable to substitute country of birth for nationality in immigration and emigration statistics. Even where independent States only are concerned, the nationality of a person who is in the habit of crossing the ocean is surrounded by more or less doubt, and where the same language is spoken it is certainly not always obvious to the ordinary ship's purser. If the purser is to inquire, there seems greater likelihood

of his getting a correct answer to the question, "what country "were you born in?" than to, "what State are you a subject of." Where different parts of the same empire are concerned, it is in the highest degree ridiculous to ask for nationality statistics from persons travelling from one part to another. Whether a British subject is Canadian or English is purely a matter of domicile, and when he is moving from one to the other country, is just the time when his domicile is likely to be most doubtful. How is a ship's purser to know whether Pat O'Farrel and Molly M'Neill have the *animus revertendi* or the *animus manendi?* As a matter of fact, if we are to judge from the Board of Trade's statement about "ancestry," the ordinary purser considers English to mean born in England or descended from persons born in England, which of course is absurd.

If the Board of Trade obtained, under proper legal sanction, the country or colony of birth of all the trans-oceanic passengers, and of all the European passengers with whom it is supposed to be worth while to deal; and if the census returns would give as much attention to the 111,627 persons born in British colonies and dependencies as they did to the 11 Servians who happened to be in England in April, 1891, our knowledge of migration into and out of the country would be both greater and more accurate than it is now. The attempt to collect useless particulars of occupation and condition as to marriage from trans-oceanic passengers ought to be abandoned, and the "naturalised British subject" ought no longer to appear in the census schedule to confuse the mind of the householder.

III. We now come to the third and last inquiry—that relating to internal migration. Here I am afraid I must confine myself to England and Wales. It is not given to any man to carry three kingdoms in his head. Like the Board of Trade statistics of external immigration and emigration, the statistics of internal migration are "not altogether satisfactory." The simplest and most obvious requirement for the purpose of acquiring information about internal migration is that the area used in recording births and deaths should be the same as that used in enumerating the birth-places of inhabitants and the habitation of natives. By comparing the difference between the births and deaths with the increase or decrease of population, we get the net migration from or to this area; and by examining the statistics of the birth-places of its inhabitants, and the distribution over the whole country of its natives, we get a view of the volume of migration in both directions. As to what the area should be, we can only say at this stage of the inquiry that it coincides with the area which ought to be the most important unit for local government pur-

poses affecting public works and the administration of the laws which promote the health and wealth of the people.

But our statistics as to births and deaths do not apply to the same area as our statistics of birth-places, and neither of them ordinarily apply to any important area of local government. The returns of the last two censuses give the distribution over England of the natives of each of the old counties and the new County of London, and give the birth-places of the inhabitants of each of these counties and of each urban sanitary district with more than 50,000 inhabitants. But the Reports of the Registrar-General, and the decennial summary of births and deaths in the census, use quite different areas, namely, the poor law unions and the groups of unions which the Registrar-Generals have christened "regis- "tration counties." [I use the term union rather than the more technically correct "registration district," because everyone knows what a union is; and I have some reason to believe, though I have not been able to discover any government or other publication which gives the constitution of unions, that 621 of the registration districts coincide with single unions, and the other 12 with two or more unions.] Urban sanitary districts and the County of London are important areas of local government, but the old counties are not now local government areas, except in a small proportion of cases; the poor law unions are only local government areas for a few and not very distinguished purposes; and the "registration counties" are not local government areas at all, and, so far as I know, have never been recognised by the legislature in any way.

If it were possible to start afresh, I suppose no one would now dream of selecting the poor law union as the area for the registration of births and deaths. That it is the area has, like everything else, an historical explanation, which must not be mistaken for a justification.

When the reform of the old poor law was in contemplation, the most pressing need appeared to be to find or, if necessary, to create areas which would be big enough to support an efficient workhouse without compelling either the paupers or the guardians to travel too far or to an inconvenient place. For this purpose the parishes were too small, except in London and a few of the other great towns. The counties on the other hand were too large. The hundreds were quite useless owing to their want of compactness: they were often not only straggling, but made up of numerous detached portions. The boroughs were not to be thought of, since many of the most important towns were not boroughs, and the more flourishing towns which were boroughs had outgrown their municipal limits and were mostly governed by corrupt oligarchies. It is easy to say now that the proper way to

proceed would have been to create county divisions something like the present parliamentary divisions, but with greater regard to area and less to population. But at that time the doctrine of parish responsibility for the poor was more powerful than it is now, and it was determined to proceed by federating parishes. Parliament left it to the Commissioners' unfettered discretion to determine what parishes should be federated, and I do not know that they have left any record of the principles which guided them. There is a defence of their method in the Census Report for 1851 (p. lxxix), which doubtless gives the traditional view:—

"For the hundreds, districts have been substituted; and the "groups of complete districts—called for the sake of distinction "'Registration Counties'—differ little in extent or area from the "ancient counties, with which, wherever it was practicable, their "boundaries are made conterminate. The cause of the discrepancy "between the 'registration counties' and the other counties arises "from the circumstance that, in many cases, the boundaries of the "old counties were rivers; on which subsequently at fords and "bridges important towns arose—the markets and centres of "meeting for the people of all the surrounding parishes. These "towns have been made the centres of the new districts, as at "them it is most convenient for the guardians to meet and the "officers to reside. Thus Wallingford in Berkshire is the natural "centre of the district, which is nearly equally divided by the "Thames; and the Thames is here, as it is in a lower part of its "course, the county boundary separating Oxfordshire from Berk-"shire. The people of the parishes of Bensington, Ewelme, "Crowmarsh, North Stoke, Berrick Prior, Warborough, and "Dorchester, on the north side of the river in Oxfordshire, meet "at Wallingford market, and are in many ways intimately "associated with the people on the south side of the river in "Berkshire; hence it was quite justifiable to unite the parishes so "related on both sides of the Thames in the Wallingford Union—"the Wallingford District."

Whatever the principles of the Commissioners may have been, their practice was probably considerably modified by the pressure of local interests. It is worth noticing that the Census Report just quoted carefully abstains from mentioning South Stoke as one of the parishes in Oxfordshire which it was right to put in the Wallingford Union. Anyone going from South Stoke to Wallingford goes through Ipsden and Checkendon, which are in the Henley Union, and yet the Commissioners included it in the Wallingford Union.

The new poor law authorities when brought into existence became at once by far the most complete governmental organisa-

tion in the country, so that it was only to be expected that they should be made use of when the central government desired to introduce a proper system of registration of births and deaths. Accordingly in 1836 we find the State requiring every board of guardians to appoint a superintendent registrar and registrars, and to divide its district into convenient divisions for facilitating registration. Now when these divisions, which were then called registration districts, but are now called sub-districts (the union having changed its name from "superintendent registrar's district" to "registration district") were mapped out, they might conceivably have been arranged so that every ancient county should consist of a group of them, though it did not coincide with a group of whole unions or superintendent registrar's districts, but this does not seem to have been even thought of. The first Registrar-General addressed a circular letter to the guardians, in which he said:—

"With respect to boundaries it is desirable, both with the view "to facilitate the knowledge of the limits of the new districts and "to avoid a multiplicity and intermixture of divisions, that the "boundaries of registrars' districts shall (when it is practicable, "consistently with the attainment of other objects) be identical "with ancient recognised boundaries such as township or parish, "and shall not unnecessarily intersect them; but it is not desired "that the limits of the district should be much extended in order "to make it coincident with any ancient boundary. Facility of "communication is of still greater importance than adherence to "ancient boundaries, and compactness and connexion of territory "must not be sacrificed for the sake of such adherence."

The desirability of not creating unnecessarily overlapping areas is here recognised somewhat grudgingly, and the county boundary is not considered worth mentioning as an example. The consequence is that the sub-districts overlap county boundaries just as much as the unions themselves. Not a single one of the Oxfordshire parts of unions which chiefly belong to other counties is a complete sub-district; nor is a single one of the parts of other counties which are included in unions chiefly belonging to Oxfordshire a complete sub-district.

But how the districts and sub-districts are arranged is merely a matter of administration: it need not in the least affect the statistics published. There was nothing to prevent the Registrar-General from arranging the births and deaths according to ancient counties, though they were collected by unions. It is merely a matter of easy book-keeping. But it has never been done. The groups of unions, which soon became known as registration counties, made their appearance in the very first Annual Report of the Registrar-General in 1839. The census return of 1841 adhered to the old

divisions of counties, hundreds, and parishes, but the much more elaborate census of 1851 adopted the whole familiar arrangement by registration districts, registration counties, and registration divisions, and that more thoroughly than it has ever been adopted since. The old counties, the hundreds and boroughs, were dealt with in a perfunctory manner in forty pages of the preliminary tables, and the whole of the details are arranged under the "registration" counties and divisions.

The people however had not been asked, and if they had been asked, would have been both unwilling and unable to declare their birth-places by registration counties. Consequently the migration statistics of the 1851 census, elaborate as they may be, are the product of a most extraordinary jumble. The birth-places of the inhabitants of registration counties are classified by counties proper, so that instead of being told, let us say, how many inhabitants of Oxfordshire proper were born in Oxfordshire proper, we are told how many inhabitants of the "registration" Oxfordshire were born in Oxfordshire proper, and the report gravely deduces from these statistics general inferences about migration, without giving any warning that they exaggerate very seriously the amount of migration.

In 1861 this indefensible plan was abandoned, without remark, and the counties proper are used on both sides of the account, with the result of disturbing enormously the apparent amount of migration, as is shown in the table on p. 66.

It will be seen that, in spite of the steady decrease of native inhabitants of counties shown between 1861, 1881, and 1891 (the census returns of 1871 do not give the required information), the comparison of the figures for 1851 and 1861 would require us to believe that the increases during the decade 1851-61 greatly preponderated over the decreases. A comparison of the table with Table 26 to Appendix C in the Report on the census of 1871 will show that the counties in which large increases appear are mostly counties which differ largely from the registration county.

This return to the true counties in 1861 replaced the census migration figures on a proper basis so far as the counties were concerned. But the registration figures of births and deaths have continued to be collected and published without reference to the true counties, so that the census of birth-places and the statistics of births and deaths remain out of any exact relationship. According to the table already quoted in the Census Report of 1871, the number of acres severed by the Registrar-General's arrangement from the counties to which they belong was 3,147,772 out of a total of 37,319,221, and the number of persons attributed to counties which they did not really inhabit was 1,053,423, out of a total of

22,712,266. The acreage in 1891 was of course the same, except for the trifling alterations which may have been made in border union boundaries, and the proportion of population misplaced must be nearly the same.

Percentage of Inhabitants of certain Counties[6] *who were Born in the County in which they were Enumerated.*

	1851.	1861.	1881.	1891.
Sussex	80·76	77·63	69·7	66·6
Hants	77·51	71·03	68·3	65·0
Berks	65·12	71·40	65·1	63·0
Herts	69·86	74·70	68·4	65·2
Bucks	78·85	78·08	74·3	72·2
Oxford	73·36	78·06	74·1	73·0
Northants	75·86	80·45	75·9	74·5
Hunts.	69·94	77·16	74·0	71·3
Beds.	75·77	79·80	76·7	73·5
Cambs.	71·55	80·45	78·2	76·5
Essex	84·20	78·27	64·8	57·6
Suffolk	86·39	87·27	83·5	82·3
Norfolk	89·94	90·55	88·0	86·9
Wilts	86·75	85·31	79·4	77·2
Dorset	86·01	83·46	79·5	77·0
Devon	85·92	84·83	82·0	80·2
Cornwall	93·22	91·94	89·4	88·3
Somerset	79·77	81·15	77·2	74·7
Gloucester	75·73	75·06	73·6	73·8
Hereford	80·75	75·74	72·4	70·0
Salop	76·69	80·53	78·3	76·9
Staffs	70·62	74·92	76·9	78·0
Worcester	64·66	72·42	69·2	66·7
Warwick	69·20	69·88	70·3	71·3
Leicester	77·62	82·77	76·9	74·9
Rutland	62·87	75·05	67·5	63·8
Lincoln	83·98	86·38	82·2	81·9
Notts	71·71	78·93	72·5	71·6
Derby	75·10	75·58	71·3	70·5
Cheshire	68·55	68·18	67·1	65·9
Lancashire	73·03	73·63	74·1	75·9
Yorkshire	87·83	86·58	81·7	81·9
Durham	67·93	67·58	67·8	71·1
Northumberland	76·69	74·82	73·7	71·8
Cumberland	82·91	81·26	76·4	78·0
Westmoreland	76·53	73·85	73·4	71·3
Monmouth	54·65	62·76	65·9	64·5

In regard to areas smaller than counties, the continuance of the classification of births and deaths by unions is productive of grave practical inconveniences. If a citizen of Oxford desires to compare the mortality statistics of his town with those of other towns of the same character, and is infatuated enough to turn to the Registrar-General's Decennial Report for the purpose, what

[6] Middlesex, Surrey, Kent, and the Welsh counties are omitted, the materials for comparison not being complete.

will he find? Elaborate statistics about the Oxford union and the Headington union. The Oxford union comprises the southern and western half of the town, with a little hole in the middle. The Headington union includes the northern and eastern parts, and the hole in the middle of the Oxford union. The citizen will not be able to find out much about the whole town even if he takes the trouble to add the figures for the two unions together, for the Headington union stretches seven miles into the country. For urban comparisons the registration district figures are nearly useless. The smaller towns are generally included in large country unions, and the larger towns are almost invariably cut up between several unions. I hope there are not many towns so absurdly divided as Oxford, where a population of over 12,000 is cut off from its registrar's office by the intervention of a mile of town situated in another union, but most of the divisions are altogether unsuitable for statistical purposes.

The remedy for this chaotic state of affairs is very simple. It consists merely in recognising for registration purposes and for the census of birth-places the existing local government divisions of the country. These divisions have almost entirely ceased to overlap. There may perhaps be half a dozen cases, for which the Local Government Board is responsible, but I do not know of more than one. The whole country is divided into administrative counties and county boroughs, between which there is no overlapping. Every administrative county is divided into urban and rural districts, each of which is wholly within the administrative county. Every county borough and every urban and rural district is divided into parishes, each of which is wholly within the county borough or the urban or rural district. Every administrative county, every county borough, every urban and rural district, and every rural parish has its own council or assembly, and has or may have its own rates.

It seems evident that the proper areas to take for recording birth-places and births and deaths are the administrative county and its subdivisions, the urban and rural districts—of course grouping two or more contiguous districts together when they are too small or too much intermixed to give statistical results of value.

If anyone sees any valid objections to this plan, I hope he will bring them forward, and I will endeavour to deal with them. I only see three, none of which are of much account.

First, it may be objected that after all there is something to be said for the plan of grouping round a market town, regardless of the traditional boundaries of counties. It is quite true; but if that was really the plan of the oor Law Commissioners they did

not carry it out with thoroughness, and if they had carried it out with thoroughness and success, their mapping out of the country would have ceased to be a good one in the course of the sixty years of change which have since elapsed. No delimitation will be absolutely free from inconveniences, and the best possible now will not be the best possible next year. The counties and county districts form by far the best existing local government areas for statistical purposes, and the fact that they are not the best conceivable for statistical purposes arises very largely from the fact that they are not the best conceivable for local government purposes. As time goes on they will probably be improved for local government purposes, and that will improve them also for statistical purposes.

This naturally brings us to the second obvious objection. It will be said that we want our statistical areas to remain the same, and our local government areas to be altered when required. This I simply deny. Few causes have brought about more erroneous statistical deductions than the refusal to extend our statistical areas as the population of towns increased, and an area which once included the whole of a town came gradually to include only the centre of it. Difficulties arising from alteration of areas must be dealt with by the formation of sub-divisions and other obvious methods.

A third objection which will perhaps be suggested is that administrative counties cannot be taken as the area for birth-places, because people will persist in regarding the ancient county as the real county. Now, as a matter of fact, a generation is growing up which, except when it votes in parliamentary elections, and looks at out of date maps, knows very little of the ancient county. The boundary of the county to the ordinary map-less being is the place where the county or border-borough police patrol ceases, and where the main road comes under the control or supervision of a different county surveyor. Athletic clubs, it is true, took the advice of Lord Harris, and refused to recognise the changes, but the ancient counties are being forgotten for all that. In the "Cyclists' Touring Club Gazette" I constantly see candidates who live in the ancient Berkshire part of the city of Oxford set down under Oxfordshire. Is it likely that anyone will give his address as Oxford, Berks? Is it likely that many an artisan who married, and went to live in the parish of Grimsbury, in the Oxfordshire borough of Banbury, in 1895, and has been an elector for the county council of Oxfordshire, will describe his children in the census schedule of 1901 as having been born in Northamptonshire, simply because he happens to have a parliamentary vote for South Northamptonshire? Some temporary

confusion there must necessarily be, but surely the probability is that the administrative county will generally win the day in the mind of the householder.

To get rid of all confusion by making the administrative county the only county, three things are required besides time. The first is that the parliamentary areas should undergo the very slight readjustment requisite to make them correspond with administrative counties, or at any rate with the groups of administrative counties and county boroughs into which the old counties have been divided. The second is that the Agricultural Department should instruct the ordnance survey to recognise frankly the administrative counties and county boroughs, to leave out the completely obsolete and absolutely useless hundreds, and to insert instead the urban and rural districts. When a Government changes the system of weights and measures it proscribes the use of the old standards. When our Government changes local government boundaries, so far from forbidding the sale of maps showing the old boundaries, it goes on for years itself selling maps showing the old boundaries and no trace of the new boundaries. The Ordnance Survey has never, I believe, shown a union or a sanitary district other than a borough on any map, except rough sixpenny county diagrams. The latest edition of that diagram for Oxfordshire was photozincographed in 1888, that is to say before the great remodelling of 1888, to say nothing of that of 1894.

The third thing requisite for preventing confusion about county boundaries is that the registration county, which never got into the maps, should disappear from other government publications.

The reform which I advocate would of course evict it from the Registrar-General's reports and the census returns, and it would appear to the ordinary mind that nothing more is required. But the inability of Government departments to recognise changes is phenomenal. The report of the Census of 1891, which was conducted under the authority of the Local Government Board, deplores the existence or supposed existence of two counties, the "ancient" and the "registration" county, and says, "when the "Local Government Boundaries Commission of 1888 was ap- "pointed, it was hoped that some way would be found of causing "one or other of these two counties to disappear, so that the various "subordinate local administrative areas might all be subdivisions of "a single larger unit. But it has turned out otherwise. The "ancient county and the registration county both remain, and a third "county, called the administrative county, has been added to them "differing from each." As I have said before, the ancient county has ceased to be a local government area, except where it coincides

with the administrative county, and the registration county never was any county or local government division at all, but a collection of poor law unions made by a Government department. The Local Government Acts of 1888 and 1894 have caused "the various sub-" ordinate local administrative areas to be all subdivisions of a " larger unit," viz., the administrative county or county borough. Yet in the "Annual Local Taxation Returns"[7] the Local Government Board continues to endeavour to fit the subordinate local administrative areas into the scheme of an arrangement by registration counties. The grotesque effect is to create a fourth county, which we may call the "urban and rural district county." To take an example, Oxfordshire, in the last Local Government returns of urban and rural district receipts and expenditure, differs from the "registration county" by excluding the Warwickshire part of the Chipping Norton union, and by including Mixbury, Finmere, Chinnor, Binsey, and the Oxfordshire part of the Faringdon union. It differs from the administrative county only by *including* four rural districts with an area of 56,133 acres and a population of 11,206, which are *wholly outside* the administrative county, and by *excluding* three other rural districts with an area of 43,166 acres and population of 10,677, which are *wholly inside* the administrative county. Oxfordshire is not peculiar; it is an absolute rule that the "urban and rural district county" in the Local Government Board returns, when it differs from the administrative county, differs by containing rural districts wholly outside, and excluding rural districts which are wholly inside the administrative county.

[7] For 1894-95, Part III. No. 9A, Rural District Accounts, and No. 10, Parish Council and Parish Meeting Accounts, and the same Returns for 1895-96, Part III, Nos. 9 and 10.

Discussion *on* Mr. Cannan's Paper.

Mr. A. E. Bateman, C.M.G., said they first had to thank Mr. Cannan for an excellent paper, which he was very glad to have, because it was sometimes said the management of the Society rather tended to fall into the hands of the permanent officials of the Civil Service. At any rate the Government department members of the Society could not be accused of being anxious to stifle discussion when they admitted such a paper as the one just read, because they had there present that evening three representatives, including himself, of the various departments, who might almost be considered as three prisoners in the dock.

There were a few points concerning his own department which he would like to explain. In the first place, Mr. Cannan said there was in Ireland special machinery for collecting emigration returns. He did not think that was quite so. The police counted the passengers when they embarked and disembarked, and put questions which people might answer or not as they liked; there was no special machinery. Then on p. 56 he found a reference to the difficulty of obtaining full particulars of all passengers entering or leaving this country. It was not difficult to count them, and the figures which were obtained from the different shipping companies and from the Belgian government were doubtless substantially accurate as to the numbers; but people who were in a hurry to get on board a steamer say at Dover, or land at Newhaven, would not stand, simply in the cause of statistics, to be examined as to their nationality, occupation, and various other things. Statistics were made for man, not men and women for statistics. Although he should like to have greater power to make those statistics of all incomers and outgoers more complete, they must allow for human nature, and especially British nature. They already got very full returns of the numbers in and out. The Board of Trade had a great deal to do with the railway and shipping companies, and usually found them very reasonable. Parliament had given them various duties to perform, and he did not think they were likely to refuse the returns required of the yearly movement of passengers. On p. 56, again, Mr. Cannan said, "if he finds that there has been a net immigration of foreigners to the number of say 10,000, the editor invariably proceeds to remark that the number or population of foreigners in the United Kingdom has been increased by 10,000, as if the foreigner received immortality from the health-giving air of our islands." They did not say the population had increased by 10,000, but that there had been an addition to the foreign population of that number, which was quite a different thing. They did not attempt to go into the question whether there had been mortality or births among those 10,000.

Mr. CANNAN said that those who were born in this country were not foreigners.

Mr. BATEMAN, continuing, said that as to the complaint on p. 57, that the Board of Trade did not compare the census account of the foreigners in England with its own account of foreign immigration, and show how far the two agreed, this had been done in a memorandum on the immigration of foreigners into the United Kingdom in 1887, and, so lately as in a well known report on the volume and effect of Russian immigration, figures had been compared. Then they came to a great grievance, namely, as regarded Mr. Cannan's own voyage to America. The authorities had given no trouble by asking questions on board, and yet they got accurate particulars which they had ascertained before the ship was allowed to sail. As a fact, before the ship received her clearance papers the list of emigrants had to be deposited with the customs. Again, on p. 59, he said, "whether a through ticket includes a return ticket I have not discovered." On that he (Mr. Bateman) would only say, that the people who came with through tickets were mostly Russian Jews, who were passing through, and the question did not arise. They had barely money enough to get one through ticket; they did not think of returning. On p. 61, respecting the nationalities of those born in various parts of the British Empire, he agreed with Mr. Cannan that the returns were not quite satisfactory, but the remedy would be very difficult. In the case of the colonial born, those figures of nationality were not strictly accurate. He did not know that it was very important, because colonials did not come here in large numbers as immigrants, they came and went, and there was perhaps a balance, but not a very large one. The great mass of the figures they wanted to have was the steerage passengers, immigrants and emigrants; the saloon passengers and people who went across to Paris were rather beside the mark.

Mr. N. A. HUMPHREYS protested against the absence of any recognition of the fact that the Registrar-General's Office had the strongest possible interest in the adoption of the soundest estimate of population, and that this desideratum had been again and again discussed by successive superintendents of the Statistical Department. Dr. William Farr, one of the most eminent Presidents of the Society, had recommended and adopted the system which Mr. Cannan condemned. He was succeeded by Dr. William Ogle, also an able Fellow of the Society, who, after careful consideration and discussion of the subject, had not felt justified in adopting any other method of estimate, although he had on many occasions discussed and critically examined the Board of Trade returns of emigration and immigration, and had the advantage of considering these returns in consultation with Sir Robert Giffen, an eminent public official and past President of this Society. It was a fact that Dr. Longstaff made an estimate before the census in 1891, which was remarkably near the truth, but bearing in mind the various assumptions on which it was based, the estimate was little more than

a clever and fortunate guess, and one which a Government department would scarcely be justified in adopting as an official estimate. At any rate there was no assurance that another attempt on the same basis would turn out as well. With regard to the large error resulting in 1891 from Dr. Farr's method, it was true that the enumerated number was 700,000 less than the estimate, but this error did not exceed 2½ per cent. on the enumerated population of 29 millions. Why did they need estimates at all? It was to serve as the basis for marriage, birth and death-rates, and it was clearly stated in all the Registrar-General's publications that the adopted estimate was based upon a simple hypothesis. It was pointed out by Dr. Ogle in his Census Report, that the maximum error at the end of the ten years 1881-90 only affected the annual English death-rate by 0·22 per 1,000, an extent of error that might well be disregarded, especially as there were other disturbing influences, which all accustomed to deal with birth and death-rates were aware of. The estimate for England and Wales was, however, only a very small part of the question. The most perfect statistics of emigration would be absolutely useless for the calculation of local death-rates, although no local death-rates could be calculated without some system for estimating population in intercensal years, and to give up local death-rates because it was difficult to estimate population accurately, would be fatal to sanitary progress.

In one part of the paper the author said, "moreover, they ask us to believe that the later years of a decade are necessarily more favourable to the growth of population than the earlier." Did Mr. Cannan really suppose that the increase in the population of 29 millions enumerated in 1891 was not really greater than the increase in the population of 26 millions ennumerated in 1881? The Registrar-General would be delighted if the Board of Trade would furnish migration statistics and vouch for their approximate accuracy; but to be useful those statistics should be issued sooner after the close of each year than was now the case. The migration statistics for 1897 had not yet been issued, while the Registrar-General's estimates for the year 1898 had already been published.

Passing on to the London census, he was sorry to find that the reader of the paper refused to recognise any value in the next quinquennial census in London. Speaking with an intimate knowledge of the census process and its results, he attached no importance to the slight verbal differences in the directions given in schedules pointed out by Mr. Cannan. It was possible that the objection taken to the London census with regard to persons away from home on Sunday might have some validity, but he felt confident that the result could not have been affected to any material extent. The London census in 1896 showed a population just 14,000 less than the number estimated by the rate of increase in the preceding ten years. Mr. Cannan thought that the population was considerably overstated, but there did not appear to be any tangible ground for the asserted inaccuracy of the return, and this quinquennial census was, he (Mr. Humphreys) hoped, the thin end of the wedge, and when the Census Act for 1901 was passed, it might be possible to convince the Government

of the desirability of having a quinquennial census for the whole of England and Wales. Nothing short of that would be satisfactory, and if the period of guessing could thus be reduced from ten years to five, it would largely add to the value of all vital statistics.

A serious complaint was made that the union was still practically the registration area. Unfortunately this was inevitable under the provisions of the Act which established civil registration in 1837. As to the suggestion that by a little book keeping the facts registered in unions could be tabulated in other areas, Mr. Cannan could not seriously have considered the enormous difficulty of thus dealing with about 900,000 births and 500,000 deaths per annum. The General Register Office was however doing all that was possible, as opportunity occurred, to get rid of overlapping boundaries, which were an intolerable trouble and difficulty to the Department, and which undoubtedly, to a certain extent, depreciated the value of local statistics. He would refer to the case of Bristol, which was now partly in two counties, partly in two registration divisions, and partly in four unions. Changes were in progress which would consolidate the enlarged city into one registration district, co-extensive with the new Poor Law Union. Many of the county boroughs were moving, by Act of Parliament or by Local Government Board Order, to make their boroughs the unit for Poor Law purposes. When that was done the registration district would correspond not only with the Poor Law Union but also with the borough boundary. These changes were also more nearly assimilating the boundaries of the administrative county and the registration county. As to the ancient county, he quite agreed it was practically dead and gone.

There was a charge made of corruption with regard to the London census which he hoped that Mr. Cannan would, on consideration, see fit to withdraw. He was mistaken in assuming that the enumerators were appointed by the local authorities. They were appointed by the local registrars, and while it was true that the registrars were in the first instance appointed by boards of guardians, they ceased on appointment to have any real connection with the local authorities, except to receive from them their registration fees. They became simply registration officers under the Registrar-General, and therefore had no interest whatever in the distribution of the fund for the equalisation of rates. It was highly desirable that Mr. Cannan should withdraw this charge of corruption, which was entirely unfounded, and might be accepted elsewhere by people who had no means of ascertaining whether the charge was justifiable.

Mr. G. W. B. McLeod said that the figures in the local taxation returns relating to rural districts were not now arranged according to "union counties." Arrangement according to "administrative" counties had not been possible until, under the Local Government Act of 1894, the changes of area had been made which led to every rural district, with a few exceptions, being wholly comprised

within one "administrative" county. Before those changes, many rural districts were in two, three, or more administrative counties, but none were in more than one "union" county. In the Local Taxation Returns for 1896-97, which were at present passing through the press, the urban and rural districts were arranged according to "administrative" counties.

Mr. W. M. Acworth said that he had a personal connection not long ago with what he thought was the champion illustration of our demographic statistics as at present existing. Some eight or nine years ago he was living in Dulwich. There he found himself as a matter of fact in a small portion of Streatham, and accordingly became a member of the Wandsworth and Clapham Board of Guardians. He was then elected by his neighbours as their representative on the first County Council for the Dulwich division of the parish of Camberwell. Part of that division was constituted by Penge, which Mr. Cannan had passed over in a manner which he ventured to think was not in proportion to its real importance, because Penge was in the cricket county of Kent, in the registration county of Surrey, and in the administrative county of London. As a Local Government unit dealing with areas smaller than counties, Penge was for Parliamentary and also County Council purposes in Camberwell; for the purpose of the Metropolitan Management Act it was in Lewisham; for the purpose of the Poor Law, Penge was in Croydon; for the purpose of Police and the County Court, Penge was in Lambeth; for the purpose of the School Board, it was in Greenwich; and he believed, though he was not absolutely certain, the Post Office put it in Norwood. He was far from suggesting that it was altogether typical, but he did think anyone who had to do with Local Government statistics must have constantly wished that he could impress the House of Commons with the fact that the reconstruction of areas was a point of real primary importance in the economy and efficiency of the Local Government. Mr. Humphreys had just spoken about Bristol. The Bedminster Union having been taken into Bristol, he trusted it would be possible in future for people interested in poor law statistics to have some idea of the state of pauperism in Bristol. No one knew, for example, anything about the pauperism statistics of Liverpool unless they had local knowledge which told them what portion of the city population was in Liverpool and what portion in West Derby. Nobody knew anything about the statistics of Manchester unless they happened to know about Chorlton and other places, and so it went on with every important town in the United Kingdom. As he listened to Mr. Humphreys's explanation, he could not help thinking of the old German saying, "Das Beste ist der Feind des gutes." They could see there was a risk of error in estimates, and they knew also that Government departments very naturally objected to any responsibility which was avoidable, but Government returns would really be more valuable if somebody would sometimes take the responsibility of making an estimate, and publishing it as an estimate. Statisticians would then know that it had been made by the most competent authorities

with access to the best sources of information, and that it could be relied on, not for complete accuracy, but as being the nearest approach to it available.

Major CRAIGIE said that they were all very much obliged to Mr. Cannan for the paper which he had brought before the meeting, and which, even if it took more or less the form of an attack on several official departments, was a very legitimate criticism, which they were always ready to welcome, in order that they might hear these questions threshed out. It was an advantage to those who were dealing with official statistics, to hear the views of those who looked at them with absolute freedom, and with no hampering responsibility, from another and an outside point of view. It was now a quarter of a century since he himself had first written and spoken on one of the particular points of this paper, the co-ordination and amalgamation of our confused local areas. Therefore, when he heard Mr. Cannan, he did so with a little feeling of despair, because there was a time, many years ago, when he had hoped that a great simplification in existing areas would be effected in connection with the changes in county government, but the local interests which had grown up round the union areas retarded any thorough settlement, and although a good deal had been done, old reformers could hardly be expected to be quite satisfied with the progress made in the direction of unity. It was unfortunate again, as had been often before shown, that the occupation statistics of our census did not show the occupations of the people in the areas in which other important statistics were grouped. That subject had been lately brought before two Royal Commissions, first the Labour Commission, and secondly, the Commission on Agriculture. Mr. Little's instructive tables in the Labour Commission Report showed how widely different were the areas of the counties in which the distribution of land with the different crops, was shown from the other counties bearing identical names wherein the census numbers of farmers or labourers were grouped. It was thus difficult, if not impossible, to compare the number of labourers or of farmers in any given county or area with the acreage of grass or arable land, or to discover the relation of the aggregate agricultural population to the number of individual holdings. Of course the crux of the situation was the rejection or acceptance of the union as the governing area, with the groups called union or registration counties. As Mr. Humphreys pointed out, the complication of areas was the result of legislative enactment, not administrative perversity. The union was by Act of Parliament made the basis of population returns, so that the Registrar-General's department had no option in the matter. The meeting probably hardly realised the extent to which since 1894 the parish and sanitary areas were gradually being altered. Voluminous notices of these changes were recorded in the Survey Branch of the Board of Agriculture. He would like to say on behalf of his own department, that some of Mr. Cannan's strictures hardly applied, as the maps prepared by the Ordnance Survey were really not quite so defective in the matter of boundaries as

Mr. Cannan imagined. He was not quite certain which series of maps he referred to, but if he alluded to the 6-inch or to the 25-inch map he thought he would find there the boundaries to which he referred fully laid down. The author probably relied on the 1-inch.

Mr. Cannan said he specially referred to the 1-inch map, but also to an index map of Oxfordshire of the 6-inch map which he had recently bought, and which gave none of the boundaries he had mentioned. Thirdly, he referred to the 6*d.* diagrams, which had not been altered.

Major Craigie said the new 6-inch map contained the boundaries of the urban sanitary districts, in every case showing the administrative county. The older maps were now being revised, but this was an operation which could not proceed very rapidly. The Survey Department introduced corrections in the maps from time to time as revision was carried out, but this could only be done slowly, and it was obvious existing maps could not be called in and cancelled on the occurrence of every change of boundary.

Mr. R. Price-Williams had heard with great regret the allusion to the existence of bias on the part of the enumerators in the recent census of London, and as Mr. Noel Humphreys had clearly explained that there were no grounds for such a statement, he hoped the writer of the paper would withdraw it. He also regretted to find that the recent census of 1896 did not meet with the approval of the writer of the paper, whereas he (Mr. Price-Williams) hoped it was the prelude to a quinquennnial census of the Kingdom. With regard to the constant changes in the areas, he must admit that that of the rural and urban districts constituted a great source of complexity and difficulty in continuing his investigations in relation to the growth of population in different districts, during the last decade of 1891, in connection with previous papers he had read on the population of England and Wales and the population of London.

Sir Robert Giffen recognised the importance of the criticisms which Mr. Cannan had made, but he thought, at the same time, that the value of a good many of his observations lay in this: that he had called attention to the real difficulties in getting official statistics put in quite as ship-shape a form as a student would like to see them. A great many of the alterations which seemed desirable could not be effected without legislation, whilst legislation on these subjects was practically impossible. He was led to think of that a good deal in connection with the statistics of emigration and immigration. Like Mr. Cannan, he had been a traveller between this country and the United States, and the same kind of observation had occurred to him as had occurred to Mr. Cannan, namely, where did the people who made the returns to the Government get their information with regard to the passengers? He was not surprised at all with reference to our

own returns as to outward passengers given to the Government, because he knew that the information was obtained before the passengers went on board the ship at all. He was surprised, however, at the elaborate returns made to the United States Government, for he thought a good deal of the information which the Government professed to obtain was certainly not obtained in former years at least, whatever might be the case now, from the passengers themselves, and nobody else could have given it. As regards our own emigration statistics, one chief part of them was made up from returns which were not required by the Government for the purpose of statistics. They were the returns required by the Passenger Acts, and were primarily required for administrative purposes. That they had been adopted in some degree for statistical purposes, in his opinion, was really a credit to the statistical work of the Board of Trade which had to do with them, and not a discredit, because they were using the best materials at their command. In addition they had supplemented that information by getting a great deal of additional information from merchants and shipowners. How to improve that without legislation was really the problem, and he thought Mr. Cannan must admit that, legislation being practically impossible, the remarkable thing was that the statistics could be used for so many purposes as they were now used for. When it was a question of legislation again, another point had to be considered: it was quite possible to have a great many elaborate statistics on a great many subjects if expense was no object, but if, for all reasonable purposes, the requisite information was obtained, was it worth going to that expense? They must all remember what Quetelet said long ago about superfluous and unnecessary statistics, about making statistics of such facts as the relative number of people stepping out in the morning with the right or the left foot first! The same thing applied in a greater or less degree to all statistics, and it was not of much use to point out that in certain things greater accuracy might be obtained, when in fact the statistics were already sufficiently accurate for all the purposes for which they were required, and to obtain a greater degree of accuracy would cost a great deal of money.

Mr. Cohen said that when Parliament came to closer quarters, if it ever did, with many of the sociological questions chattered about at the last general election, questions relating to the cheapening of deferred annuities for our labouring population, questions relating to unemployed persons and to regularity of school attendance, and even in certain contingencies to national defence, &c., it would discover the absolute necessity of reviewing the whole machinery in England for collecting statistics of the movement and particulars of population. He thought he was correct in saying our country was alone in Europe in having very incomplete records in regard to its population. He felt sure that whenever they came to deal with any of these sociological problems to which he referred, there would be needed arrangements for the better identification and more complete enumeration of our

population. Probably the very first thing that would be found to be necessary would be a scheme for setting up not merely fuller or more inquisitorial inquiries at the port of arrival, but a system of local record offices throughout the country, which he hoped would not be connected in England with police agencies. He joined in urging Mr. Cannan to reconsider his comments as to the liability to error with regard to the enumeration of the London quinquennial census; he did not think it was customary in the paper of a scientific society to suggest corruption with no other justification than the hypothesis that it might be perhaps remotely to the interest of the enumerators to be corrupted.

Mr. H. F. T. Burgess said that the author apparently wished to see the statistical areas increased as the population of the towns increased. He did not know whether that would entail a continual moving or shifting of boundaries, but this point must be looked at from a geographical point of view, so that the geographical student of the future might be able to trace the movement of population from one place to another. During the past hundred years the distribution of population in the country had been greatly altered by the growth of manufactures. The formation of subdivisions was also a very important point.

The Chairman (Mr. C. S. Loch) said he was much interested in this subject from the point of view of poor law relief, and he thought it would be of great service if they had various groupings of unions which would really represent what might be called populous areas. It had been admitted that they ought to work towards accepted single areas and subdivisions, and it was rather discouraging to be told that nothing was possible in the way of legislation; but he certainly did not think it would be right to adopt that position. If it were not impossible, but only difficult, that Society, and students of statistics generally, should use their utmost endeavours to get the necessary alterations made. The demand for statistical information might originally have been due to the requirements of local administration. Now, however, the *data* were of value from the point of view of statistics generally, over and above any service that they might render to local administrators. The discussion might well have some practical outcome. He could not help thinking that it would be well if the Council of the Society were to consider whether steps could not be taken to make such changes as would, in the eyes of the authorities, seem really desirable.

Mr. Cannan, in reply, said he thought the mere numbers of immigrants and emigrants given by the Board of Trade were correct enough for all practical purposes, and had said as much in the paper. He did not propose that they should have any special arrangement for counting ship passengers; what he meant was that Parliament ought to put the law under which the Board of Trade worked into what Sir Robert Giffen called ship-shape form, and enable the Board to be reasonably secure of getting the

information desired without being so dependent on the courtesy of private persons. Considering the actual state of the law, as described in the paper, he thought great credit was due to the Board of Trade for its statistics as to the mere numbers of immigrants and emigrants, but he did not think a good case was made out for the nationalities as collected by the Board. He scarcely understood Mr. Bateman's view as to what constituted nationality. He had said that the Board of Trade was correct in describing him as an Englishman, and he still thought so, as he was a British subject domiciled in England. But in Mr. Bateman's view the Board of Trade was wrong, inasmuch as he was the son of a native of Scotland and born in Portuguese territory. It was said by Sir Robert Giffen, as well as by Mr. Bateman, that the passenger lists were made before the people went on board. But did that apply to immigrants as well as emigrants? The particulars with regard to nationalities, conjugal condition, and occupations of both immigrants and emigrants were, he maintained, imaginary. The shipping agents had no means of knowing anything about himself except what was put on his ticket, viz., his address, whether adult or child, and probably his sex. The ticket might easily be made to give more information, but at present, if the information in question was not obtained on board ship, it was certain they could not possess it.

He agreed with Sir Robert Giffen, it was a mistake to ask for too many particulars. The only additional thing he asked for was the collection of separate nationality (or, preferably, country of birth) statistics in regard to the migration to and from non-European countries, as well as in regard to poor European immigrants. In return for this very small addition he proposed that a good many of the columns in the schedule of the Merchant Shipping Act should be left out as useless, so that he was really asking for less rather than more. No one had defended, or could possibly defend, the division of all passengers into English, Scotch, Irish, and foreign. With regard to the rejection of the Board of Trade figures by the Registrar-General, it was said that the Registrar-General had gone into the subject with Sir Robert Giffen, who admitted these figures were not sufficiently trustworthy to base an estimate upon. He gathered that was some time ago. The figures had certainly been enormously improved in recent years, and he should think that opinion might have been perfectly correct at the time but not correct now. Statistics as to the nationality of migrants, whether correct or incorrect, obviously had nothing to do with an estimate of the population of the United Kingdom, or even its distribution between England, Scotland, and Ireland. A genuine estimate for Ireland was already made by the Irish, and accepted by the English Registrar-General, and the distribution of the population of Great Britain between England and Scotland offered no greater difficulty than the distribution of the population of England between different English counties. He was surprised at the objection that the information about the population of the whole country would not tell the population of the localities. This was

obviously true, but the estimates of the population of the localities had to be made up from the estimate of the population of the whole country somehow, and the method adopted need not be affected in the least by the proposed change. However, as a matter of fact, it was notorious that the present system was very inaccurate as regarded localities. He would give one instance of this inaccuracy, for which he had reason to be thankful. Oxford was a county borough, although it was not in the Local Government Act, 1888, and had a population of under 50,000 at the census of 1891. The estimate of population approved by the Registrar-General and accepted by the Local Government Board and Parliament, put the population at 53,000, although it turned out to be only 45,742 two years after.

Mr. Humphreys objected to his saying that the system made the increase of population greater in the last five years than in the first five years of each decade, and suggested it was absolutely necessary that it should be so. He could not see any necessity for it at all. If the increase of population in each of two decades was 3,000,000, he could not conceive why they should suppose that the increases in the second halves of the decades were greater than those in the first halves.

Mr. Humphreys said, if there was an increase of 3,000,000 during a decade, it seemed obvious that the annual increase must be greater in the later than in the earlier years of such period.

Mr. Cannan said that it was so, but the assumption of a uniform annual percentage of increase was wrong. The absolute increase between 1881 and 1891 was actually rather less than the absolute increase between 1871 and 1881, and that being so it was obvious they could not suppose the increase in the second five years of each decade to be greater than in the first. If the rate of increase happened to be decreasing, the increase in the second five years might be equal to or less than that in the first five years. He had been accused of not giving Government departments the credit of being engaged in consideration of these questions. He had no doubt they were being considered, and he had hopes of seeing some results of that consideration. It had been suggested that various local authorities were moving in favour of unification of areas, but he did not think it ought to be left to local authorities; if it were, they would never arrive at it. He was sorry that he had made one or two statements with regard to the Ordnance Survey which were out of date, but was glad to hear from Major Craigie that his suggestion had been to a great extent already adopted. At the same time he would not pretend to be satisfied till all the administrative counties (from the Soke of Peterborough upwards), the county boroughs, and the urban and rural districts appeared on the 1-inch map, which might be called the map of the people, as all other common maps were copied from it. He was also glad to hear that the Local Government Board did not intend to adhere to the curious arrangement of rural districts adopted for the first quarter of 1895. It had occurred to him

that the arrangement might be temporary, but he had been unable to find any reason whatever for its temporary adoption. Lastly, as to the London census, several speakers had asked him to withdraw the charge of corruption, but it was perfectly well known that a census in which the returns of the population had some influence on grants from the central government to the localities would be corrupt.

Mr. HUMPHREYS said the enumerators were not always local people, and there was no connection between them and the local authorities which could influence them to give corrupt returns.

Mr. CANNAN said it was quite sufficient if the enumerators were generally local people, and often persons ordinarily in the employment of local authorities. He had no doubt that a great many people had been incorrectly entered owing to the doubtful clause on the top of the schedules. When a man had an interest in counting a person about whom there was some doubt, he would do so unless he belonged to the abnormally conscientious minority.

Note subsequently added by Mr. Cannan.

The question raised as to the accuracy of the London Census of 1896 is not of much importance in relation to the general purpose of the paper, and it is therefore natural that some speakers in the discussion which followed should have been surprised that I insisted on pressing my point against it. Perhaps I may be allowed to explain here that under the Equalisation of Rates Act the same incentive, whatever its force, to reckoning as large a population as possible will be brought into play in every London district, not only at every intermediate London census, but also at every general census. Moreover, it is possible that, unless a timely protest is made, the system of distributing common funds according to population may be extended from London to the country, where local feeling is more highly developed than in London. The genuine alarm which I feel at this prospect must be my excuse, if I am really to be held to have libelled human nature by the suggestion that on the whole enumerators will be likely to give their own localities the preference in all doubtful cases.

How unjust and inexpedient inequality of rates should be removed, is a political rather than a statistical question, but it is, I hope, permissible to express my hope that the influence of all Fellows of the Society will be used against a method which throws suspicion on the most important of all statistical data, the census enumeration.

The Statistical Aspects *of the recent* Bimetallic Proposals.

By Fred. J. Atkinson, F.S.S.

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I.—*Introductory.*

The recent proposals of the American Currency Commissioners on the bimetallic question, led to a considerable discussion on the subject in the magazines and daily papers, which unfortunately resulted in only a very limited amount of fresh light being thrown on the question of bimetallism.

It has been generally admitted both by monometallists and bimetallists for some time past, more especially since the Gold and Silver Commission of 1887, that the open mints of America and the Latin Union succeeded in maintaining a parity of exchange between gold and silver for a long series of years, thus admitting the practicability of the theory of bimetallism under certain conditions.

The recent discussions brought to light the fact of a practical unanimity between monometallists and bimetallists in considering that, whatever other nations may do, the United Kingdom must retain her single gold standard at all costs, but as regards the advisability or wisdom of Great Britain encouraging other nations to establish bimetallism, nothing satisfactory was arrived at; and it still seems to be an open question whether bimetallism at any ratio would be of real benefit to the country.

The Indian Government rejected their share in the proposals, on the ground that the proposed ratio between gold and silver was unsuitable to India, and there can be little doubt that a ratio of $15\frac{1}{2}$ of silver to 1 of gold at the present time would seriously damage Indian trade for many years to come, and for the time being bring ruin and disaster. It is not, however, proposed to discuss the question of policy in this paper, but to ascertain if the proposals of the American Commissioners were practicable from a statistical point of view, accepting such statistics as are available, and drawing deductions from these in order to arrive at some practical decision.

II.—*The Bimetallic Proposals.*

The proposals of the American Commissioners were as follows:—

1. The opening of the Indian mints, and the repeal of the order making the sovereign legal tender in India.

2. The placing of one-fifth of the bullion in the issue department of the Bank of England in silver.

3. (*a.*) The raising of the legal tender limit of silver to, say 10*l.*

(*b.*) The issue of 20*s.* notes based on silver which shall be legal tender.

4. An agreement to coin annually 10,000,000*l.* of silver. (Present silver coinage average for five years about 1,000,000*l.*, less annual withdrawal of worn and defaced coin for recoinage about 350,000*l.*)

Alternative Proposal.—Agreement to purchase each year 10,000,000*l.* in silver at coinage value.

5. The opening of English mints to the coinage of rupees, and of a British dollar which shall be full legal tender in the Straits Settlements and other silver standard colonies, and legal tender in the United Kingdom to the limit of silver legal tender.

6. Action by the colonies, and coinage of silver in Egypt.

7. Something having the general scope of the Huskisson plan.

If England consented to these conditions the United States and France were to open their mints to the free coinage of silver at a ratio of $15\frac{1}{2} : 1$.

The British Government, supporting the Government of India, rejected the proposals offered to them, and the matter then ended. It may be assumed, however, that, if encouragement had been given, other European nations would have been consulted, and asked to make similar concessions, if unable to actually open their mints to silver. But it does not follow that any nation, except Belgium, Italy, Switzerland, and Greece, the sister countries of France in the

now defunct Latin Union, who presumably would have been forced to follow France, would have consented to the proposals made to them, and, in the absence of any assurance to the contrary, the only practicable way to inquire into the matter is to consider the question as it stands before us, the consenting parties consisting only of the United States, the Latin Union, and the United Kingdom (as regards India).

Of the conditions required of England, No. 4 may be dismissed at once; it was probably only suggested in order that something of importance might be conceded if it was found that the country was anxious for bimetallism. The imports and exports of silver into and from the United Kingdom during the twenty-five years ending 1895 show a net export of 475,000*l.* (see Statement 7), so that a net import of 10,000,000*l.* for a series of years would obviously have a serious effect on the gold standard of the country.

Conditions 2, 3, 5, and 6 would probably have had a very inappreciable effect on the absorption of silver, though the moral effect might have assisted in establishing the metal, and the only condition which it seems necessary to consider in this connection is No. 1, the reopening of the Indian mints to the free coinage of silver, coupled with a similar action on the part of France and the United States. What we now propose to consider therefore is whether these three open mints would be able to maintain a parity between silver and gold at a ratio of $15\frac{1}{2} : 1$, *i.e.*, accepting the doctrine of the Gresham law that the cheaper will drive the dearer circulating medium out of a country, whether the stock of gold in France and America is sufficient to pay for the silver which would be poured into the two countries in exchange for gold at $15\frac{1}{2} : 1$. If this stock is sufficient, it is clear that the parity can be maintained, at all events for the time; if insufficient, it is equally clear that the two countries would eventually become silver countries, the price of silver would gradually fall from its bimetallic value to its cost of production value, and the scheme would prove a failure.

III.—*Method of Procedure.*

In order to arrive at a decision on the point, it is necessary (1) to ascertain the production of the precious metals; (2) to locate this production, gold and silver separately, and (3) to estimate what portion is available for exchange, gold into silver, or silver into gold, in each country concerned.

IV.—*The Production of the Precious Metals.*

The details of the production of the world in both metals is well known. The figures, beginning with 1493, were commenced

by the late Professor Soëtbeer, and have for many years been continued by the Director of the Mint, U.S.A., and the annual publications issued by the Secretary to the United States Treasury give full particulars. Regarding his estimates, Dr. Soëtbeer said: "These figures are considerably within the facts, but are not to be "considered in any way exact."

V.—*The Location of the Precious Metals.*

As regards the present location of the metals produced, it seems practically impossible to locate the production of each metal with any accuracy before 1851, and it is proposed therefore to take the circulation in each country, based on the metallic reserve in the banks, so far as it is possible to obtain the figures, starting from 1850. We may assume that, after allowing for the circulation in that year, the great bulk of the previous production of gold, and to some extent of silver, excluding the east, has by this time been absorbed in such a way as to prevent its further use as an exchange commodity at market bullion rates.

The production and movements of the metals from 1850 to 1873 will next be dealt with. It is of importance that this period should be treated in some detail, because of the great discoveries of both metals which have been made since 1850. The location of gold and silver especially during this period must to some extent be an estimate, as figures for all countries are not published, and indeed in many cases no account of the movement of metals was kept. Where an estimate is necessary it will be based on any information available as a guide, and where no such information can be obtained it will be based on the probabilities of the case. In most cases, however, approximate figures can be ascertained by the exports from the United Kingdom, which has been the centre of the precious metal trade for many years, the holdings of the banks, &c.

Dr. Soëtbeer, in his "Materialien" (1886), stated: "It is "perfectly true that no statistics are better than false statistics, "but we have here to deal not with false statistics, but with "estimates and compilations, by which, though with wide limits "of error, we try to get near the truth, and which are no more "open to the charge of over statement than to that of under "statement."

From the year 1871 to 1895 fairly accurate figures have been published for most countries, and in preparing the statement of imports and exports given in this paper the figures have been compiled from the various sources available. The figures for this period form the chief factor in the quantity of the metals avail-

able for export at the present time, and they are accordingly given in detail year by year.

We have now arrived at the following :—

1. The estimated circulation of gold and silver in January, 1851.
2. The net import or export of each metal in each country between 1851 and 1870, based partly on actual returns and partly on estimates.
3. The net import or export of each metal in each country between 1871 and 1895, based almost entirely on actual returns.

The aggregate of the three may be considered to represent the quantity of each metal in each country, the disposal of which we shall then have to consider.

VI.—*The Estimated Circulation of Gold and Silver in January*, 1851.

STATEMENT 1.—*Monetary Stock in* 1851.

[000's omitted.]

Country.	Gold.	Silver.
	£	£
1. United Kingdom	41,500,	14,000,
2. France	3,000,	100,000,
3. Belgium	1,000,	3,000,
4. Italy	2,000,	5,000,
5. Switzerland	1,000,	3,000,
6. Greece	500,	1,000,
7. United States	15,000,	25,800,
8. Holland	14,000,	12,000,
9. Germany	3,000,	35,000,
10. Austria	2,000,	7,000,
11. Spain	18,000,	6,000,
12. Portugal	3,000,	3,000,
13. Russia	30,800,	21,200,
14. Sweden	1,000,	3,000,
15. Norway	—	2,000,
16. Denmark	1,000,	4,000,
17. Turkey	4,000,	5,000,
Total, Europe and United States	140,800,	250,000,
18. India	12,247,	29,000,
19. China	5,000,	15,000,
20. Canada	1,000,	—
21. W. Africa	1,000,	—
22. Japan	20,000,	3,000,
23. Ceylon	—	500,
24. Straits	—	4,000,
Total world	180,047,	301,500,

The more important of the figures given in this statement are taken direct from the estimates of known authorities. The circulation in France, the most important of all, is taken from

Tooke, as also that of Holland. The Russian figures are taken from the "Gazette de St. Pétersbourg," and quoted by Del Mar. The figures for silver for India have been carefully worked out, and the amount of gold represents the net import from 1801 to 1850. All other figures represent estimates founded on the various sources of information available. In the case of China and Japan no information can be obtained, though it is known that in former years Japan produced large quantities of gold.

The aggregate of gold and silver for Europe and the United States amounts to 390,800,000*l.*, which is only slightly less than the total estimate of 400,000,000*l.* given by MacCulloch, and quoted by Del Mar as the circulation of that year.

VII.—*The Location of the Precious Metals between* 1851-70.

We have next to consider the location of the precious metals from 1851 to 1870.

The net imports (+), including production, and net exports (−) of each metal during the period were as follows:—

STATEMENT 2.—*Absorption of Precious Metals*, 1851-70.
[000's omitted.]

Country.	Gold.	Silver.	
	£	£	Ozs. (approximate).
1. United Kingdom	+ 102,878,	+ 4,250,	+ 17,000,
2. France	+ 203,780,	− 41,655,	− 166,618,
3. Belgium	+ 6,730,	+ 906,	+ 3,624,
4. Italy	+ 3,600,	+ 1,400,	+ 5,600,
5. Switzerland	+ 2,000,	....	....
6. United States	+ 49,420,	+ 8,239,	+ 32,955,
7. Holland	+ 1,880,	+ 9,693,	+ 38,772,
8. Germany	+ 3,283,	+ 16,939,	+ 67,756,
9. Austria	+ 15,756,	+ 163,	+ 653,
10. Spain	+ 7,830,	+ 4,326,	+ 17,305,
11. Portugal	+ 2,657,	− 2,882,	− 11,529,
12. Russia	+ 30,669,	+ 7,822,	+ 31,288,
13. India	+ 83,659,	+ 160,292,	+ 641,166,
14. China	+ 5,000,	+ 12,632,	+ 50,529,
15. Australia	+ 11,701,	+ 147,	+ 589,
16. Canada	+ 3,934,	....	....
17. West Africa	+ 2,130,	....	....
18. South „	+ 1,093,	....	....
19. Ceylon	....	+ 4,799,	+ 19,196,
20. Other countries	+ 7,000,	+ 3,954,	+ 15,814,
Production =	545,000,	+ 191,025,	+ 764,100,

The figures given in this statement represent the absorption of each metal in each country so far as can be ascertained; for this purpose the production of each country is treated as an import into the country, and the net import or export worked out accord-

ingly. For example, the United States exported 156,829,000*l.* net of gold during the period, but the production in the country was 215,248,500*l.*, thus the net import or absorption was 49,419,500*l.* (in thousands), as shown in the statement.

The figures for the United States, Australasia, France, and India are entirely taken from the published statistics. For the United Kingdom the exports are published for the whole period, but the imports only from the year 1858. For the period 1851 to 1857 the imports can, however, be fairly accurately estimated, because it is known that the bulk of the production of gold in Mexico, South America, and West Africa went to England; the exports from the United States and France are also given, and the minor exports from other countries have been estimated on the basis of averages of the next thirteen years. The statistics for Austria from 1859 have also been published, and for the remaining years of the period a similar average has been taken. The net exports of silver from India to Ceylon represent almost the exact absorption of that country, and the net export or import of India and the United Kingdom with China show the quantity absorbed by the latter; but the exports from the United Kingdom do not distinguish between exports to China and the Straits; some portion, probably about 4 millions, of the China absorption belongs to the Straits. West and South Africa traded in precious metals almost entirely with the United Kingdom during the period, and net figures have accordingly been given. Thus the figures for the countries stated above may be accepted as approximately accurate, and account for 475,400,000*l.* of gold out of a production of 545,000,000*l.*, and 190,700,000*l.* of silver out of a production of 191,025,000*l.*, *plus* 44,536,700*l.* net exported by France and Portugal, equal to 235,561,700*l.* in all to be accounted for. For the remaining countries no returns have been published, the net export from or import into each from the United Kingdom has therefore been taken in the cases of Germany, Belgium, Canada, Holland, Spain, and Portugal. The figures are probably fairly accurate, as the bulk of the net export of silver from France went to the United Kingdom and India, and the balance to Austria and Russia. The figures for Russia are an estimate based on the coinage and production in the country, and the imports of gold into and exports of silver from France during the period.

VIII.—*The Location of the Precious Metals between* 1871-95.

We have now to deal with the third and most important period, 1871 to 1895, and the figures for the various countries are accordingly given in detail year by year, in order that the movements of the metals in each year may be readily seen, and economic inferences drawn therefrom.

STATEMENT 3.—*Net Exports or*

[000's omitted.] Net imports = +.

Years.	1. United Kingdom. Import includes Production.	2. France.	3. Belgium.	4. Italy.	5. Switzerland.	6. United States. Import includes Production.	7. Holland.	8. Germany. Import includes Production.
1871....	+ 925,	− 8,493,		....	....	− 3,842,		6,394,
'72....	− 1,279,	− 2,116,		....	....	− 1,307,		+ 3,370,
'73....	+ 1,540,	− 4,343,	+ 1,500,	....	....	− 336,	+ 1,500,	+ 15,093,
'74....	+ 7,441,	+ 17,324,		....	....	+ 3,671,		− 905,
'75....	+ 4,495,	+ 18,835,		....	....	− 4,400,		− 660,
'76....	+ 6,961,	+ 20,120,	+ 295,	....	....	+ 3,170,		+ 3,259,
'77....	− 4,931,	+ 17,430,	+ 295,	....	....	+ 9,328,		+ 1,368,
'78....	+ 5,905,	+ 9,449,	+ 295,	− 503,	+ 14,	+ 11,059,	+ 3,750,	+ 8,378,
'79....	− 4,209,	− 7,007,	+ 295,	− 951,	+ 443,	+ 8,016,		+ 3,425,
1880....	− 2,374,	− 8,510,	+ 295,	− 17,	+ 277,	+ 23,266,		− 377,
'81....	− 5,536,	+ 423,	+ 49,	+ 2,154,	+ 305,	+ 27,205,	− 107,	− 1,525,
'82....	+ 2,354,	+ 3,655,	− 108,	+ 2,512,	+ 471,	+ 6,873,	+ 450,	− 477,
'83....	+ 665,	− 2,814,	− 570,	+ 1,348,	+ 776,	+ 7,278,	+ 2,309,	− 1,000,
'84....	− 1,268,	+ 1,831,	− 567,	+ 346,	+ 499,	+ 2,398,	+ 1,011,	− 655,
'85....	+ 646,	+ 1,698,	+ 452,	− 3,586,	− 67,	+ 10,195,	+ 1,286,	+ 866,
'86....	− 833,	+ 2,512,	+ 328,	+ 55,	+ 123,	+ 2,373,	+ 2,175,	+ 1,270,
'87....	+ 632,	− 6,600,	+ 152,	− 664,	+ 149,	+ 13,519,	+ 260,	+ 2,025,
'88....	+ 873,	− 3,664,	+ 227,	− 609,	+ 208,	+ 11,925,	− 372,	+ 1,786,
'89....	+ 3,472,	+ 8,329,	+ 2,726,	− 89,	+ 1,151,	− 3,747,	+ 35,	+ 784,
1890....	+ 9,262,	− 5,325,	+ 1,876,	− 395,	+ 1,019,	+ 5,698,	+ 499,	+ 3,107,
'91....	+ 6,121,	+ 5,018,	+ 74,	− 181,	+ 298,	− 7,594,	+ 587,	+ 5,702,
'92....	+ 6,762,	+ 11,058,	+ 105,	− 523,	+ 638,	+ 6,497,	+ 157,	+ 1,534,
'93....	+ 5,341,	+ 7,532,	+ 107,	− 2,475,	+ 559,	− 11,031,	+ 1,271,	+ 2,024,
'94....	+ 11,948,	+ 14,160,	+ 746,	− 207,	+ 1,087,	+ 6,956,	+ 624,	+ 12,292,
'95....	+ 14,658,	+ 380,	....	− 463,	+ 773,	+ 3,033,	+ 225,	+ 1,231,
Total...	+ 69,571,	+ 90,882,	+ 8,574,	− 4,247,	+ 8,722,	+ 130,202,	+ 15,660,	+ 68,306,

Net Imports, GOLD, *in Sterling,* 1871-95.

Net exports = −. [000's omitted.]

9. Austria. Import includes Production.	10. Spain.	11. Portugal.	12. Russia. Import includes Production.	13. India. Import includes Production.	14. China. Import includes Production.	15. Australasia. Import includes Production.	17. South Africa. Import includes Production.	18. Japan. Import includes Production.
+ 3,794,	+ 38,	+ 798,	+ 2,966,	+ 2,696,	− 293,	+ 2,580,	+ 1,082,	+ 31,
+ 2,221,	− 14,	+ 403,	+ 4,921,	+ 3,002,	+ 173,	+ 1,769,	+ 1,259,	− 499,
+ 2,335,	+ 1,830,	+ 872,	+ 2,758,	+ 2,553,	+ 102,	− 587,	+ 179,	− 45,
+ 1,072,	....	+ 317,	+ 2,968,	+ 1,613,	− 305,	+ 23,	− 316,	− 1,612,
+ 276,	+ 589,	+ 546,	+ 499,	+ 1,756,	− 281,	+ 376,	− 324,	− 2,134,
+ 1,815,	− 47,	+ 601,	− 11,449,	− 314,	− 152,	+ 915,	− 266,	− 1,024,
+ 1,471,	+ 368,	− 154,	+ 5,046,	+ 719,	+ 70,	− 1,122,	+ 107,	− 1,202,
+ 1,275,	+ 380,	+ 352,	+ 6,427,	+ 83,	− 131,	+ 360,	+ 107,	− 909,
+ 2,102,	+ 501,	− 156,	+ 5,791,	+ 343,	− 807,	+ 3,783,	+ 1,408,	− 793,
+ 2,114,	+ 412,	+ 573,	+ 2,748,	+ 2,769,	− 329,	+ 2,002,	− 566,	− 1,177,
+ 1,976,	+ 17,	+ 624,	− 4,527,	+ 3,943,	− 35,	− 542,	+ 167,	− 423,
+ 1,579,	+ 17,	+ 34,	− 5,749,	+ 4,394,	− 43,	+ 455,	− 348,	− 437,
+ 1,465,	+ 47,	+ 3,879,	+ 2,390,	+ 4,169,	− 366,	+ 448,	− 742,	− 170,
+ 907,	+ 435,	+ 549,	+ 4,169,	+ 4,332,	+ 312,	+ 4,488,	− 555,	− 173,
+ 639,	− 99,	+ 650,	+ 3,755,	+ 1,917,	− 617,	+ 334,	− 814,	+ 87,
+ 815,	+ 253,	+ 1,884,	+ 2,383,	+ 1,470,	− 73,	+ 1,961,	− 322,	+ 220,
+ 644,	− 41,	+ 992,	+ 1,532,	+ 2,263,	− 229,	+ 3,581,	+ 379,	+ 45,
+ 1,509,	+ 157,	+ 895,	+ 2,221,	+ 1,905,	− 259,	+ 171,	+ 1,382,	− 37,
+ 1,658,	+ 259,	+ 2,	+ 2,490,	+ 3,440,	− 308,	+ 1,240,	+ 2,182,	+ 146,
+ 3,885,	+ 788,	+ 957,	+ 4,537,	+ 4,545,	+ 285,	+ 1,210,	− 160,	− 223,
+ 3,024,	+ 127,	+ 741,	+ 16,530,	+ 3,485,	− 604,	− 649,	+ 210,	+ 72,
+ 6,332,	+ 920,	− 1,710,	+ 23,804,	− 1,571,	− 1,380,	+ 2,500,	+ 103,	− 1,232,
+ 13,366,	+ 239,	− 1,089,	+ 7,896,	+ 1,581,	− 632,	+ 4,351,	− 18,	− 183,
+ 1,037,	+ 45,	....	+ 16,578,	+ 1,093,	− 520,	+ 1,917,	+ 307,	− 562,
+ 3,714,	− 63,	− 268,	+ 10,041,	+ 2,650,	− 576,	+ 3,599,	554,	− 260,
+ 61,026,	+ 7,157,	+ 12,291,	+ 110,722,	+ 54,836,	− 6,996,	+ 35,162,	+ 4,994,	− 12,495,

STATEMENT 4.—*Net Imports or Net*

[000's omitted.] Net imports = +.

Years.	1. United Kingdom. Import includes Production.	2. France.	3. Belgium.	4. Italy.	5. Switzerland.	6. United States. Import includes Production.	7. Holland.	8. Germany. Import includes Production.
1871....	+3,651,	+ 1,025,		....	....	+ 868,		+ 2,526,
'72....	+ 710,	+ 4,091,		....	....	+ 297,		+ 6,197,
'73....	+3,291,	+ 7,248,	+2,611,	....	....	+ 1,199,	+1,055,	+ 1,827,
'74....	+ 210,	+14,428,		....	....	+ 2,097,		+ 191,
'75....	+1,260,	+ 7,490,		....	....	+ 2,068,		+ 823,
'76....	+ 736,	+ 5,947,		....	....	+ 2,972,		+ 480,
'77....	+2,388,	+ 4,172,		....	....	+ 3,900,		+ 1,402,
'78....	— 79,	+ 4,754,	+5,602,	— 124,	+ 385,	+ 5,967,	+ 990,	+ 1,905,
'79....	— 148,	+ 3,020,		— 48,	+ 593,	+ 5,531,		+ 973,
1880....	— 197,	+ 1,554,		— 443,	+ 994,	+ 6,341,		+ 1,295,
'81....	— 36,	+ 2,037,	+ 217,	+ 431,	+ 923,	+ 5,860,	+ 199,	+ 1,216,
'82....	+ 358,	— 743,	+ 1,138,	+2,061,	+ 662,	+ 5,966,	+ 216,	+ 1,252,
'83....	+ 218,	— 581,	+ 278,	+1,875,	+ 596,	+ 5,549,	+ 170,	+ 1,050,
'84....	— 284,	+ 2,589,	+ 1,089,	— 367,	+ 457,	+ 5,586,	+ 59,	+ 577,
'85....	— 334,	+ 3,922,	+ 108,	+ 858,	— 67,	+ 4,500,	+ 138,	+ 748,
'86....	+ 309,	+ 2,027,	+ 505,	+ 139,	+ 399,	+ 5,011,	+ 117,	+ 485,
'87....	+ 68,	+ 1,589,	+ 19,	— 233,	+ 541,	+ 5,777,	+ 55,	+ 939,
'88....	—1,344,	+ 2,166,	+ 203,	+ 271,	+ 619,	+ 5,551,	— 259,	+ 786,
'89....	—1,436,	+ 287,	+ 1,850,	— 129,	+ 1,257,	+ 5,141,	—1,334,	+ 963,
1890....	— 420,	+ 1,218,	+ 1,962,	+ 34,	+ 975,	+ 7,946,	— 528,	+ 1,368,
'91....	—3,693,	+ 1,296,	+ 59,	— 156,	+ 904,	+ 9,995,	+ 870,	+ 524,
'92....	—3,269,	+ 710,	+ 64,	+ 125,	+ 405,	+ 7,855,	+ 628,	— 239,
'93....	—1,634,	+ 1,328,	+ 65,	+ 429,	— 142,	+ 5,250,	+ 132,	— 1,128,
'94..	—1,134,	— 795,	— 596,	+3,272,	— 96,	— 1,775,	+ 383,	— 137,
'95....	+ 335,	+ 2,509,	— 136,	— 98,	+ 1,210,	+ 1,292,	+ 230,	+ 61,
Total	— 475,	+73,289,	+17,538,	+8,784,	+10,615,	+110,744,	+3,120,	+26,086,

Exports, SILVER, *in Sterling*, 1871-95.

Net exports = −. [000's omitted.]

9. Austria. Import includes Production.	10. Spain.	11. Portugal.	12. Russia. Import includes Production.	13. India.	14. China.	15. Japan. Import includes Production.	16. Ceylon.	17. Straits Settlements.
−1,094,	+ 1,054,	− 20,	+ 142,	+ 1,712,	− 3,465,	+ 505,	+ 474,	
−3,290,	+ 729,	− 9,	+ 690,	+ 5,419,	+ 1,187,	+ 505,	+ 555,	
− 66,	+ 370,	− 3,	+ 2,936,	− 88,	+ 451,	− 190,	+ 496,	
− 138,	+ 1,882,	− 3,	+ 2,449,	+ 4,834,	+ 1,373,	− 852,	+ 574,	
+ 167,	+ 1,668,	− 1,	+ 765,	+ 2,832,	+ 1,822,	− 679,	+ 672,	
− 883,	+ 170,	+ 30,	+ 486,	+ 4,351,	+ 3,006,	+ 681,	+ 618,	+ 18,573,
+ 559,	+ 1,547,	− 10,	− 581,	+ 13,117,	+ 3,759,	− 142,	+ 117,	
+ 3,075,	+ 650,	+ 30,	− 103,	+ 3,393,	+ 3,487,	− 2,	+ 486,	
+ 4,131,	+ 151,	− 118,	+ 555,	+ 6,686,	− 424,	− 1,062,	+ 116,	
− 600,	− 23,	+ 3,	+ 462,	+ 4,224,	+ 2,356,	− 664,	+ 304,	
+ 1,833,	+ 316,	+ 1,	+ 474,	+ 2,432,	+ 645,	− 596,	+ 277,	+ 801,
− 4,137,	+ 1,138,	+ 10,	− 988,	+ 8,047,	+ 85,	− 600,	+ 308,	+ 1,841,
+ 1,010,	+ 1,149,	+ 82,	+ 189,	+ 3,852,	+ 1,921,	+ 640,	+ 259,	+ 2,304,
− 15,	+ 379,	+ 12,	+ 242,	+ 6,203,	+ 1,888,	+ 715,	+ 669,	+ 1,751,
+ 323,	+ 194,	− 1,	+ 236,	+ 8,336,	+ 1,289,	+ 752,	+ 29,	+ 603,
+ 625,	+ 113,	+ 132,	+ 433,	+ 5,022,	+ 1,672,	+ 74,	+ 189,	+ 568,
+ 538,	+ 6,	+ 70,	+ 249,	+ 5,948,	+ 1,576,	− 522,	+ 314,	+ 789,
+ 561,	− 66,	− 1,	− 295,	+ 5,838,	+ 418,	− 52,	+ 334,	+ 978,
+ 743,	− 159,	....	+ 927,	+ 6,903,	+ 2,611,	+ 2,352,	+ 305,	+ 2,186,
+ 622,	+ 280,	+ 61,	+ 590,	+ 12,440,	− 214,	− 2,063,	+ 425,	+ 69,
+ 533,	+ 3,190,	− 89,	+ 886,	+ 5,883,	− 658,	+ 2,569,	+ 496,	+ 1,195,
+ 804,	+ 369,	+ 457,	+ 1,063,	+ 7,382,	+ 1,046,	+ 3,947,	+ 243,	+ 1,636,
+ 812,	− 61,	− 35,	+ 2,425,	+ 9,116,	+ 4,153,	+ 374,	+ 117,	+ 1,180,
+ 669,	− 27,	....	+ 2,791,	+ 4,607,	+ 4,400,	− 693,	+ 506,	+ 740,
+ 334,	− 26,	+ 8,	+ 4,170,	+ 3,333,	+ 3,078,	− 3,827,	+ 165,	+ 949,
+7,114,	+14,991,	+606,	+21,193,	+141,821,	+37,464,	+1,168,	+9,049,	+36,164,

STATEMENT 5.—*Net Imports or Net*

[000's omitted.] Net Imports = +.

Year.	1. United Kingdom.	2. France.	3. Belgium.	4. Italy.	5. Switzerland.	6. United States.	7. Holland.	8. Germany.
1871....	+14,485,	+ 4,068,		....	....	+ 3,445,		+ 10,020,
'72....	+ 2,824,	+16,279,		....	....	+ 1,182,		+ 24,662,
'73....	+13,331,	+29,359,	+10,530,	....	....	+ 4,855,	+4,288,	+ 7,400,
'74....	+ 864,	+59,385,		....	....	+ 8,632,		+ 788,
'75....	+ 5,316,	+31,608,		....	....	+ 8,725,		+ 3,473,
'76....	+ 3,349,	+27,058,		....	....	+ 13,521,		+ 2,183,
'77....	+10,455,	+18,267,		....	....	+ 17,076,		+ 6,139,
'78....	— 363,	+21,706,	+25,501,	— 566,	+ 1,758,	+ 27,247,	+4,507,	+ 8,696,
'79....	— 702,	+14,140,		— 227,	+ 2,778,	+ 25,901,		+ 4,556,
1880....	— 905,	+ 7,136,		+ 2,037,	+ 4,564,	+ 29,125,		+ 5,950,
'81....	— 166,	+ 9,459,	+ 1,007,	+ 2,001,	+ 4,286,	+ 27,208,	+ 926,	+ 5,644,
'82....	+ 1,663,	— 3,455,	+ 5,293,	+ 9,580,	+ 3,078,	+ 27,739,	+ 1,002,	+ 5,823,
'83 ...	+ 1,033,	— 2,757,	+13,186,	+ 8,902,	+ 2,829,	+ 26,341,	+ 806,	+ 4,986,
'84....	— 1,347,	+12,275,	+ 5,162,	— 1,738,	+ 2,165,	+ 26,484,	+ 278,	+ 2,420,
'85....	— 1,647,	+19,359,	+ 532,	+ 4,234,	— 332,	+ 22,214,	+ 683,	+ 3,672,
'86....	+ 1,637,	+10,723,	+ 2,674,	+ 734,	+ 2,111,	+ 26,609,	+ 618,	+ 2,568,
'87....	+ 364,	+ 8,547,	+ 103,	— 1,255,	+ 2,911,	+ 31,073,	+ 294,	+ 5,052,
'88....	— 7,523,	+12,129,	+ 1,135,	+ 1,519,	+ 3,465,	+ 31,068,	— 1,451,	+ 4,400,
'89....	— 8,076,	+ 1,616,	+10,402,	— 725,	+ 7,066,	+ 28,853,	— 7,500,	+ 5,412,
1890....	— 2,113,	+ 6,131,	+ 9,872,	+ 173,	+ 4,905,	+ 39,989,	— 2,655,	+ 6,884,
'91....	—19,668,	+ 6,902,	+ 315,	— 831,	+ 4,815,	+ 53,236,	+ 4,635,	+ 2,793,
'92....	—19,708,	+ 4,283,	+ 387,	+ 755,	+ 2,439,	+ 47,353,	+ 3,786,	— 1,438,
'93....	—11,012,	+ 8,950,	+ 438,	+ 2,890,	— 959,	+ 35,373,	+ 889,	— 7,603,
'94....	— 9,404,	— 6,591,	— 4,941,	+27,134,	— 792,	— 14,718,	+ 3,138,	— 1,136,
'95....	+ 2,693,	+20,160,	— 1,089,	— 785,	+ 9,723,	+ 10,385,	+ 1,884,	+ 488,
Total...	—24,619,	+336,736,	+80,505,	+53,834,	+56,810,	+558,919,	+16,128,	+113,832,

Exports, SILVER, *in Ounces*, 1871-95.

Net Exports = −. [000's omitted.]

9. Austria.	10. Spain.	11. Portugal.	12. Russia.	13. India.	14. China.	15. Japan.	16. Ceylon.	17. Straits Settlements.
− 4,340,	+ 4,182,	− 79,	+ 564,	+ 6,791,	−13,744,	+ 2,003,	+ 1,879,	
−13,092,	+ 2,901,	− 34,	+ 2,748,	+21,566,	+ 4,723,	+ 2,009,	+ 2,207,	
− 269,	+ 1,497,	− 13,	+11,891,	− 358,	+ 1,827,	− 788,	+ 2,010,	
− 570,	+ 7,745,	− 12,	+10,082,	+19,895,	+ 5,653,	− 3,509,	+ 2,361,	
+ 707,	+ 7,038,	− 6,	+ 3,228,	+11,913,	+ 7,688,	− 2,866,	+ 2,837,	
− 4,020,	+ 774,	+ 136,	+ 2,213,	+19,796,	+13,679,	+ 3,100,	+ 2,810,	+ 79,755,
+ 2,447,	+ 6,774,	− 44,	− 2,545,	+57,438,	+16,460,	− 621,	+ 514,	
+14,039,	+ 2,966,	+ 139,	− 470,	+15,495,	+15,923,	− 10,	+ 2,218,	
+19,345,	+ 707,	− 552,	+ 2,599,	+31,309,	− 1,985,	− 4,974,	+ 543,	
− 2,758,	− 107,	+ 14,	+ 2,124,	+19,402,	+10,822,	− 3,052,	+ 1,396,	
+ 8,511,	+ 1,467,	+ 7,	+ 2,200,	+11,291,	+ 2,996,	− 2,766,	+ 1,288,	+ 3,720,
−19,236,	+ 5,291,	+ 48,	− 4,595,	+37,411,	+ 395,	− 2,792,	+ 1,432,	+ 8,561,
+ 4,796,	+ 5,453,	+ 388,	+ 895,	+18,285,	+ 9,120,	+ 3,038,	+ 1,231,	+ 10,937,
− 72,	+ 1,799,	+ 55,	+ 1,148,	+29,411,	+ 8,953,	+ 3,390,	+ 3,172,	+ 8,302,
+ 1,593,	+ 958,	− 6,	+ 1,164,	+41,151,	+ 6,361,	+ 3,714,	+ 145,	+ 2,977,
+ 3,304,	+ 596,	+ 698,	+ 2,288,	+26,565,	+ 8,845,	+ 392,	+ 1,002,	+ 3,007,
+ 2,894,	+ 34,	+ 377,	+ 1,341,	+31,992,	+ 8,478,	− 2,809,	+ 1,687,	+ 4,248,
+ 3,140,	− 372,	− 4,	− 1,651,	+32,674,	+ 2,341,	− 293,	+ 1,867,	+ 5,471,
+ 4,179,	− 894,	....	+ 5,210,	+38,807,	+14,678,	+13,222,	+ 1,716,	+ 12,290,
+ 3,132,	+ 1,409,	+ 305,	+ 2,969,	+62,603,	− 1,078,	−10,380,	+ 2,137,	+ 349,
+ 2,837,	+16,988,	− 473,	+ 4,720,	+31,334,	− 3,505,	+13,682,	+ 2,645,	+ 6,364,
+ 4,845,	+ 2,223,	+2,755,	+ 6,408,	+44,501,	+ 6,309,	+23,794,	+ 1,466,	+ 9,866,
+ 5,472,	− 410,	− 234,	+16,338,	+61,419,	+27,985,	+ 2,522,	+ 791,	+ 7,949,
+ 5,546,	− 224,	....	+23,145,	+38,212,	+36,488,	− 5,743,	+ 4,194,	+ 6,134,
+ 2,684,	− 210,	+ 61,	+33,490,	+26,772,	+24,719,	−30,742,	+ 1,327,	+ 7,604,
+45,117,	+68,585,	+3,526,	+127,505,	+735,676,	+214,129,	− 478,	+44,876,	+177,536,

In these statements the figures given for the following countries are taken from the published statistics of imports and exports, the production of each country when so stated, being treated as an import into the country.

1. United Kingdom.
2. France.
3. Belgium. From 1876.
4. Italy.
5. Switzerland. From 1876.
6. United States.
7. Holland. From 1876.
8. Germany.
9. Austria.
10. Spain.
11. Portugal.
12. Russia.
13. India.
14. China.

The statistics for Belgium, Holland, and Switzerland do not divide gold from silver from 1871 to 1875, the division for the first two has been made from the net exports from or imports into the United Kingdom to or from each country. The figures for Switzerland for these years cannot be ascertained. The figures for China, both gold and silver, are compiled from the exports and imports from and to the United Kingdom, the United States and India, to and from China, and are probably fairly accurate.

The figures for South Africa, &c., are taken from exports from and imports into the United Kingdom and India.

The figures for Ceylon are obtained from the net export from India to that island, and those for the Straits from the net export from the United Kingdom, *plus* the net export from or import into India.

The figures for Spain are taken from the net export from or import into the United Kingdom, and in all these cases, where actual estimates are not published, the figures given are approximately correct.

In every case, except for the United States, the calendar year has been taken, in the United States the official year from 1st July to 30th June has been given.

Statement 4 gives the value of silver as published in the currency of each country converted into sterling. Statement 5 gives the weight of silver in ounces, worked out from the average price in London for each year.

Summarising the results thus arrived at, we obtain the following:—

STATEMENT 6.—*Gold.*

[000's omitted.]

Country.	Absorption.	Net Export.
	£	£
Production	—	630,758,
1. United Kingdom	69,571,	—
2. France	90,882,	—
3. Belgium	8,574,	—
4. Italy	—	4,247,
5. Switzerland	8,722,	—
6. United States	130,202,	—
7. Holland	15,660,	—
8. Germany	68,306,	—
9. Austria	61,026,	—
10. Spain	7,157,	—
11. Portugal	12,292,	—
12. Russia	110,722,	—
13. India	54,836,	—
14. China	—	6,996,
15. Australasia	35,162,	—
16. South Africa	4,994,	—
17. Japan	—	12,494,
18. Other countries	—	23,611,
	678,106,	678,106,

STATEMENT 7.—*Silver.*

[000's omitted.]

Country.	Silver.		Ounces.	
	Net Import.	Net Export.	Net Import.	Net Export.
	£	£		
Production	—	505,573,	—	2,503,754,
1. United Kingdom	—	475,	—	24,619,
2. France	73,289,	—	336,736,	—
3. Belgium	17,538,	—	80,505,	—
4. Italy	8,784,	—	53,833,	—
5. Switzerland	10,615,	—	56,810,	—
6. United States	110,744,	—	558,919,	—
7. Holland	3,120,	—	16,128,	—
8. Germany	26,086,	—	113,832,	—
9. Austria	7,114,	—	45,117,	—
10. Spain	14,991,	—	68,585,	—
11. Portugal	606,	—	3,525,	—
12. Russia	21,193,	—	127,505,	—
13. India	141,821,	—	735,676,	—
14. China	37,464,	—	214,129,	—
15. Japan	1,168,	—	—	478,
16. Ceylon	9,049,	—	44,876,	—
17. Straits	36,164,	—	177,536,	—
18. Other countries	—	13,698,	—	104,861,
	519,746,	519,746,	2,633,712,	2,633,712,

It will be noticed that the gold absorbed in the seventeen countries given amounted to 678,106,036*l.*, against a production, *plus* net export, of 654,495,399*l.* during the period, representing an excess absorption of 23,610,637*l.* This is probably mainly accounted for by an export considerably in excess of the production in Mexico and South America. The net import into the United Kingdom alone from those countries exceeded the production, and large exports also went to the United States and France.

In the case of silver we find that the seventeen countries given absorbed 519,745,599*l.* in value, and 2,633,712,483 ozs. in weight, against a production *plus* export of 506,047,936*l.* in value, and 2,528,851,412 ozs. in weight.

It is not probable that the excess absorbed represented an actual net export from any country or countries not entered in the statement, and the inference is that the production is under estimated, or that the returns are not quite accurate.

Dr. Soëtbeer in his "Materialien" (1886) discussed the trustworthiness or otherwise of the published returns of the movements of the precious metals, and gave examples of obvious inaccuracies, notably in the movement between England and France. In support of this he gave the following figures:—

STATEMENT 8.

[000's omitted.]

1871-85.	Gold.	Silver.
	£	£
Import to England from France. British statistics	30,536,	22,839,
Exports from France to England. French statistics	21,690,	7,364,
Excess—British statistics	8,846,	15,475,
Import into France from England. French statistics	40,969,	18,784,
Exports from England to France. British statistics	34,904,	17,010,
Excess—French statistics	6,065,	1,774,
Total	14,911,	17,249,

Thus we find that according to the British statistics, the United Kingdom exported gold to France to the amount of 4,367,900*l.* net, while the French statistics show a net import of 19,278,550*l.*, a difference of 14,910,650*l.*, and in silver the British statistics show

a net import into England of 5,828,700*l.*, and the French statistics a net export from England of 11,420,200*l.*, giving a difference of 17,248,900*l.* Thus, if the British statistics are correct, France credits herself with an absorption during the period of 15 millions of gold, $17\frac{1}{4}$ millions of silver in excess of the actual figures, and the agreement between the movements of the metals between the United Kingdom and the United States during the same period points to the conclusion that the British statistics are well kept. But, even if inaccuracies are traceable, it is evident that the returns are of value to arrive at practical conclusions because, as Dr. Soëtbeer says, "the same method is used in "these countries year after year, and we get therefore a clue "as to the general tendency from one year to another of "each country's trade in the precious metals." The countries given in the statement include all the main absorbers of both gold and silver; the absorption by the countries not named was probably very small, the aggregate of the absorption is very slightly in excess of the production, thus proving the general accuracy of the whole. If any countries are credited with an excess over the actual return, it may be accepted that the countries of the Latin Union and the United States are at least as likely to have been thus treated as any other country, and any inaccuracy might cut either way. The figures given in this paper, though showing a slight excess of production, will therefore be taken in making the comparisons that follow.

IX.—*The Circulation of* 1851, *plus absorption of Precious Metals*, 1851-95.

Summarising the circulation of 1851 and the absorption by each country from that year to 1895, we arrive at the stocks of the metals in each country, as given on p. 100.

In the statement, Canada, West Africa, "other countries" and Japan are credited with less gold than must have been actually taken by them, because it has not been found possible to give accurate figures for the first three during the period 1871-95, and Japan for the period 1851-70. Australasia and South Africa are included in "other countries" as regards the circulation in 1851.

As regards silver, Switzerland and Japan have not been allotted any for the period 1851-70, for want of information, and the Straits have been similarly treated, whilst China has probably been credited with the silver retained by the Straits. But, on the other hand, it is probable that a considerable portion of the absorption of the Straits for the period 1871-95 found its way to China, so that the aggregate totals given may be treated as

approximately correct. "Other countries" have not been credited with any silver for the period 1871-95, and it is probable that a considerable amount was absorbed by countries not specified in the statement.

We are now in a position to make our first calculations

STATEMENT 9.

[000's omitted.]

Country.	Gold.	Silver.	
	£	£	ozs.
1. United Kingdom	213,949,	17,775,	48,381,
2. France	297,662,	131,634,	570,118,
3. Belgium	16,304,	21,444,	96,129,
4. Italy	1,353,	15,184,	79,433,
5. Switzerland	11,722,	13,615,	68,810,
6. United States	194,622,	144,783,	695,074,
7. Holland	31,541,	24,813,	102,900,
8. Germany	74,589,	78,025,	321,588,
9. Austria	78,782,	14,277,	73,770,
10. Spain	32,987,	25,317,	109,890,
11. Portugal	17,948,	724,	3,997,
12. Russia	172,191,	50,215,	243,593,
13. India	150,742,	331,112,	1,492,842,
14. China	3,004,	65,096,	324,658,
15. Australasia	46,863,	—	—
16. Canada	4,934,	—	—
17. West Africa	3,130,	—	—
18. South ,,	6,087,	—	—
19. Japan	7,505,	4,168,	11,522,
20. Ceylon	—	14,348,	66,071,
21. Straits Settlements	—	40,164,	193,536,
22. Other countries	13,501,	19,101,	76,403,
Total	1,379,416,	1,011,795,	4,578,715,
Circulation, 1851	180,047,	301,500,	1,206,000,
Production, 1851-95	1,175,758,	696,598,	3,267,854,
Total	1,355,805,	998,098,	4,473,854,

X.—*Gold* versus *Silver Stocks.*

The stock of gold and silver in each country is absorbed—

(1.) In coinage.
(2.) In the Arts.
(3.) As a "latent reserve."

The second of these is reported to absorb the bulk, but gold and silver used in the arts are always liable to be remelted and sold if the process is found profitable, and it may be assumed that if the value of silver rose from 26*d.* an ounce to over 60*d.*, in most cases it would be profitable to sell, if any suspicion existed that its price would fall again.

In the present case, without any statistics to prove one way or the other, there is a general suspicion that the Latin Union and the United States would be unable to maintain the price at 60*d.*, and the result would be the sale of the metal to a very large amount. What that amount would be can only be estimated, and it is proposed to do this first on possibilities and afterwards on probabilities.

It is of course obvious that large amounts of both metals have been absorbed since 1851 in such a way as to prevent their being brought into the market, but it may be assumed that the amount so absorbed is proportionately greater in gold than in silver, because the same inducement would not be held out for melting down gold as for silver. We propose, however, for the present to place both metals on the same footing in this respect, and assume that the same proportion of each would be available for sale, gold for silver or silver for gold, as the case might be, at the ratio of $15\frac{1}{2} : 1$, making silver equivalent to 60·84*d.* an ounce.

On this assumption we arrive at the following combinations from Statement 9.

The Latin Union is composed of France, Belgium, Switzerland, Italy, and Greece. Figures for the last named are not obtainable, but as it is well known that the stock of the precious metals in the country is almost nil, the comparisons will not be vitiated by their omission.

Combination No. 1.

Gold.	Silver.
Latin Union and United States *v.* The World.	
521,662,317*l.*	3,069,150,488 ozs. at 60·84*d.* an ounce = 778,029,648*l.*

Combination No. 2.

Gold.	Silver.
Latin Union and United States *v.* The World (excluding India, which country is to have an open mint).	
521,662,317*l.*	1,576,308,300 ozs. at 60·84*d.* an ounce = 399,594,167*l.*

Combination No. 3.

Gold.	Silver.
Latin Union and United States *v.* Europe only (including "Other Countries").	
521,662,317*l.*	980,520,806 ozs. at 60·84*d.* an ounce = 248,562,024*l.*

The first combination shows that the Latin Union and the United States would be drained of their gold long before the whole of the silver of the rest of the world was absorbed, with the result that the countries named would cease to be double standard countries, and would have to adopt a silver basis; the

price of silver would then fall, and the bimetallic conditions would fail. In the second and third combinations, the bimetallic countries would maintain the parity between gold and silver, but it will be shown hereafter that India and the East should not be excluded as markets providing silver in exchange for gold at the profitable ratio proposed.

XI.—*The Coinages of the World*, 1851-95.

It is now proposed to consider the coinages of the world.

STATEMENT 10.

[000's omitted.]

1.	2.	3.	4.	5.	6.	7.
	Gold.			Silver.		
Country.	Period.	Amount.	Coinage, 1873-95.	Period, Col. 2. United States Coining Value.	Coining Value, 1873-95.	Ounces, 1873-95.
		£	£	£	£	
United Kingdom	1851–95	356,743,	193,181,	29,056,	19,977,	74,893,
France	'51–95	311,083,	47,768,	46,785,	15,900,	59,028,
United States	'51–95	348,286,	207,724,	124,688,	113,363,	420,860,
Belgium	'51–95	23,652,	14,587,	18,329,	6,426,	23,616,
Italy	'51–95	19,575,	8,749,	24,573,	12,435,	46,951,
Holland	'51–95	6,904,	6,778,	29,599,	5,073,	18,833,
Germany	'57–95	151,615,	127,340,	60,381,	18,594,	69,032,
Austria	'57–95	46,842,	37,180,	62,899,	38,812,	144,090,
Russia	'51–95	164,906,	89,634,	32,823,	13,729,	50,969,
Scandinavia	'73–95	9,849,	9,849,	2,585,	4,562,	16,937,
Spain	'73–95	42,364,	42,364,	33,574,	33,574,	124,644,
Portugal	'54–95	1,769,	677,	5,231,	3,536,	13,128,
India	'51–95	—	—	302,316,	151,008,	566,184,
Japan	'73–95	11,028,	11,028,	35,983,	35,983,	133,586,
Mexico	'73–95	2,556,	2,556,	110,877,	110,877,	411,631,
Egypt	'73–95	474,	474,	2,897,	2,897,	10,756,
S. America	'73–95	7,444,	7,444,	16,233,	16,233,	60,267,
Total		1,505,090,	807,333,	938,829,	602,979,	2,245,405,
Production of the world	'51–95	1,175,758,	579,616,	857,627,	639,402,	2,373,769,

The figures in this statement show that whether taken for a long period, 1851-95, or for a shorter, 1873-95, the coinages of the world exceed the amount of gold produced. This is accounted for by the fact that no record has been kept in most countries of recoinage of either domestic or foreign coin, and the recoinage of the latter is often very extensive.

No deductions as regards the amount of the disposable metals in each country are, therefore, possible from the coinage returns, and the statement is given to show that this is the case.

XII.—*The Monetary Stocks of the World.*

We will next consider the monetary stocks of the precious metals in each country on the 1st January, 1896 :—

STATEMENT 11.—*Monetary Stocks of the World, 1st January*, 1896.

[000's omitted.]

Country.	Stock of Gold.	Stock of Silver.				
		Full Tender.			Limited Tender.	
		Nominal Value Rs. 10 = 1*l.*, Mexican Dollar = American Dollar.	Nominal Value, Full Value, Silver Countries.	Ounces.	Nominal Value.	Ounces.
	£	£	£		£	
1. United Kingdom	122,000,	—	—	—	25,353,	85,234,
2. France	161,000,	90,479,	90,479,	330,154,	12,062,	40,835,
3. Belgium	10,500,	10,415,	10,415,	38,004,	1,458,	4,936,
4. Italy	21,000,	2,604,	2,604,	9,502,	5,521,	18,691,
5. Switzerland	3,500,	—	—	—	437,	1,479,
6. Greece	100,	104,	104,	379,	208,	704,
7. United States	140,000,	115,750,	115,750,	414,387,	15,991,	55,578,
8. Holland	5,500,	11,021,	11,021,	40,527,	687,	2,426,
9. Germany	141,000,	19,160,	19,160,	61,604,	23,958,	78,712,
10. Austria	40,000,	5,207,	5,207,	18,601,	8,332,	26,853,
11. Spain	8,000,	—	—	—	10,270,	34,777,
12. Portugal	1,000,	—	—	—	1,541,	5,108,
13. Russia	101,000,	729,	729,	2,660,	8,332,	25,303,
14. Scandinavia	6,700,	—	—	—	2,562,	8,639,
15. Turkey	10,500,	6,249,	6,249,	23,343,	2,083,	7,775,
16. Roumania, Servia, and Bulgaria	8,100,	708,	708,	2,583,	3,271,	11,074,
17. India	—	232,337,	135,530,	798,657,	—	—
18. China and Hong Kong	—	70,000,	33,542,	263,940,	—	—
19. Australasia	27,000,	—	—	—	1,458,	4,902,
20. Canada	3,000,	1,041,	1,041,	3,497,	208,	699,
21. Japan	16,000,	7,208,	7,208,	27,456,	1,927,	7,340,
22. Ceylon	—	15,000,	8,750,	51,542,	—	—
23. Straits Settlements and Siam	—	40,000,	19,167,	150,823,	—	—
24. Egypt	26,500,	—	—	—	1,033,	3,813,
25. Mexico	1,000,	20,208,	9,683,	76,197,	—	—
26. Central American States	100,	2,500,	1,159,	9,122,	—	—
27. South American States	8,000,	7,291,	3,381,	26,604,	—	—
28. Cuba, Haiti, and Hawaii	4,400,	1,144,	1,144,	4,197,	312,	1,056,
Total	865,900,	659,155,	483,031,	2,353,779,	126,804,	425,934,
Add limited tender coin	—	126,804,	126,804,	425,934,	—	—
Total	865,900,	785,959,	609,835,	2,779,713,	—	—

The figures in this statement have been taken from the report of the Director of the United States Mint, except as regards the

circulation of silver in India, China, Japan, Ceylon, Siam and the Straits Settlements.

The differences are as follows:—

STATEMENT 12.

[000's omitted.]

	United States Report.	Figures Adopted.
	ozs.	ozs.
India	677,187,	798,657,
China	571,025,	263,940,
Ceylon	182,728,	51,542,
The Straits		153,823,
Siam	147,172,	
Japan	69,590,	34,796,
Total	1,647,702,	1,302,758,

The figures adopted, therefore, give a circulation of 344,944,000 ounces of silver *less* than those given by the Director.

The monetary stock in India is taken from the figures given year by year in the paper, "Silver prices in India," published in the Society's *Journal* for March, 1897, and includes the active circulation, the coin in the presidency banks, and the coin estimated as hoarded. The figures are worked out on scientific principles, and probably approximate the actual amounts. The stock in China as estimated by the Director of the United States Mint appears to be too high. The use of silver as currency is comparatively recent; copper or actual barter was formerly the ordinary medium of exchange, and it is reported that even now barter is considerably more resorted to than currency in the interior.

In 1851, the silver currency consisted only of Mexican dollars, and it is known that the circulation of these was very low at that time; since 1851, the net import of silver from the United Kingdom, India, and the United States amounted only to 264,658,000 ounces, with perhaps a small addition from Japan and the Straits, and as the Mexican dollars ordinarily reached China through the United States and Hong Kong, and China is not a silver producing country, it is difficult to understand how the present monetary stock of the country is estimated at 571,000,000 ounces by the Director of the United States Mint. The figure given in this paper, 264,000,000 ounces, seems nearer the mark.

As regards the Straits, Ceylon, and Siam, the Director gives 329,900,000 ounces, which appears excessive, as the net import into these countries between 1851 and 1896 probably did not exceed 242,000,000 ounces. The population of the Straits, Ceylon, &c., was 3,800,000, and of Siam, 5,000,000, on 1st January, 1896, and the circulation allotted by the Director gives 13·5*l.* and 8·08*l.*

per head respectively, or nineteen and twelve times that of India, and it is known that the habits of the people in Siam and Ceylon, and to some extent in the Straits, are not very dissimilar from those of the people of India, though in some respects the two latter are more advanced. In allotting the figures in this paper, the Straits and Siam are grouped together, as the great bulk of the silver imported into the latter country seems to have entered through the former, and Ceylon is shown separately, the circumstances of the country being quite different.

Japan also appears to have been allotted too high a stock of silver in the American returns, as the net import between 1871 and 1895 amounted to $11\frac{1}{2}$ million ounces only, though no doubt this figure was considerably increased by the unrecorded import of silver rupees in the pockets of British travellers.

The aggregate monetary stocks of the world are thus estimated to be 865,900,000*l.* in gold and 785,959,000*l.*, nominal value, in silver, giving in weight 2,779,713,000 ounces.

It may be urged that no deductions from a bimetallic point of view can be obtained from these figures, because in countries with a gold and a silver standard a great deal of the silver is coined at a more favourable (to silver) ratio than $15\frac{1}{2} : 1$. As a matter of fact the full legal tender value of silver coins of all countries is either $15\frac{1}{2} : 1$ or higher.

In the United States, Holland, Turkey, Mexico, Japan, Egypt, and Hawaii the ratio is higher, and in all those countries it might be remunerative to melt down their silver coin and sell for gold at $15\frac{1}{2} : 1$.

As regards the limited tender silver coin, in all countries except Turkey and Egypt, the coinage is at a lower ratio than $15\frac{1}{2} : 1$, but such coin is only legal for limited amounts, and it might happen that the stock was greater than required, when it would be remunerative to the Government of the country to sell some portion of it for gold, especially if the gold stock of the country required replenishing; and in this connection it should be remembered that with a high gold reserve any country could do without silver altogether, its place being filled by paper. It is quite possible that under the conditions proposed many countries might sell their silver coin for gold at $15\frac{1}{2} : 1$, store the gold, and issue paper as small coin, with the ultimate object of repurchasing silver should the bimetallic conditions afterwards break down, and the price of silver fall. Should the bimetallic conditions succeed in maintaining the price of silver, the loss on full legal tender money would only be the coining charges, whereas the failure of the conditions might eventually prove an enormous gain.

With these remarks before us, we offer the following possible combinations from the figures given in Statement 11 :—

Combination No. 4.

GOLD.	SILVER.
Latin Union and United States *v.* The World.	
336,100,000*l.*	1,865,064,000 ozs. (all) at 60·84*d.* an ounce = 472,794,000*l.*

Combination No. 5.

GOLD.	SILVER.
Latin Union and United States *v.* The World.	
336,100,000*l.*	1,561,353,000 ounces (full tender only), at 60·84*d.* an ounce = 395,803,000*l.*

Combination No. 6.

GOLD.	SILVER.
Latin Union and United States *v.* The World, excluding India.	
336,100,000*l.*	1,066,407 ozs. at 60·84*d.* an ounce = 270,334,000*l.*

XIII.—*Gold* versus *Silver Stocks based on Probabilities.*

We have so far dealt only with possibilities, we now propose to to consider the probabilities from the facts and figures before us.

First treating with gold :—

STATEMENT 13.—*Gold.* [000's omitted.]

1. Country.	2. Circulation, 1850, plus Absorption, 1851-95.	3. Monetary Stock, 1895.	4. Balance.	5. Used in the Arts.	6. Latent Reserve.	7. Gold Bullion in State Banks, 1st January, 1896.	8. Probable Maximum Amount available for Exchange for Silver.
	£	£	£	£	£	£	£
1. United States	194,622,	140,000,	54,622,	51,750,	2,870,	23,583,	70,000,
2. France	297,662,	161,000,	136,662,	80,000,	56,662,	78,011,	80,500,
3. Italy	1,353,	21,000,	—	10,000,	—	12,250,	14,500,
4. Switzerland	11,722,	3,500,	8,222,	5,000,	3,222,	—	2,000,
5. Belgium	16,304,	10,500,	5,804,	5,000,	804,	3,995,	5,250,
6. Greece	1,000,	100,	900,	900,	—	—	—
Total	522,663,	336,100,	206,210,	152,650,	63,558,	117,839,	172,250,

In estimating Col. 8, the probable maximum amount available for exchange for silver, we have taken the following into consideration :—

(*a*) The estimate of the Director of the United States Mint of the monetary stock in Italy is higher than the stock of metal as shown in the country on the same date.

This is probably due to a considerable unrecorded import of gold in the pockets of travellers.

(*b*) The Director of the United States Mint in his report gives

the following figures as deposits of gold at the United States mints for coinage purposes :—

	From 1873 to 1896.	Annual Average.
	£	£
1. Bullion	221,133,000	9,214,000
2. Coin	60,971,000	2,540,000
3. Plate and jewellers' bars	10,628,000	443,000

and the consumption of gold in the arts in 1895 is given as 2,178,000*l.*, whilst Soëtbeer's estimate in 1885 was a little in excess of this amount. If therefore we give an average annual consumption of 1,500,000*l.* in the arts during the forty-five years 1851-95, and an average of 350,000*l.* as old plate, &c., melted down, we arrive at a consumption of 51,750,000*l.* in manufactures. In France the consumption in the arts in 1885 and 1895 is shown to be about the same as in the United States, but the population and wealth of the country has not increased in anything like the proportion that it has in the States, the consumption therefore in the earlier years must have been considerably in excess of the States. The estimate has been framed accordingly.

(*c*) If a drain of gold occurred in any of the countries named, no incentive would exist to melt down plate, &c., for coinage, because there could be no possible gain by the transaction, and, at the same time, it would be known that the gold was required for the purchase of silver, which might afterwards fall in gold price, resulting in eventual loss. It may be assumed therefore that very little or no plate would find its way to the mint.

(*d*) The figures shown under "latent reserve" are the unaccounted balances. In France this figure is high, and shows either that the recorded imports and exports of the metal are incorrect, or that stocks of coin exist in the country not included in the monetary stock, possibly hoarded and hidden away. In either case, the gold would not become available in a crisis, and need not be considered.

(*e*) When France demonetised silver in 1873, she still had a large stock of gold in the country and in the banks, in fact the gold reserve in the bank of France only fell from 26,348,000*l.* to 24,452,000*l.* between December, 1872, and December, 1873, at which time the first step towards demonetisation was decreed. It is urged by some that if she had held on to her bimetallic conditions, she could still have retained a sufficient stock of gold for its continued success. This may or may not have been the case, but the fact of her demonetising silver with her large stocks of gold in hand, shows that under similar circumstances the same thing might occur again.

(*f*) The monetary stock represents not only the coins in the

banks, but also in circulation, and it is evident that all this gold could not and would not be produced if a sudden demand was made for it for the purchase of silver. In fact, it is quite possible that the only gold that would become available for the purpose would be the metal in the State banks and treasuries. The amounts so held on 1st January, 1896, are given in Col. 7 of the Statement, and, excluding Switzerland and Greece, aggregate 117,839,000*l.*

We propose, however, to take a higher estimate than this, and assume that 50 per cent. of the total monetary stock in the United States, France, and Belgium, and a larger proportion in Italy and Switzerland, would become available for the purpose. This is probably the very utmost limit.

The total amount thus treated, as given in Col. 8, amounts to 172,250,000*l.* We now turn to silver.

STATEMENT 14.—*Silver, Ounces.* [000's omitted.]

1 Country.	2 Circulation, 1851, plus Absorption, 1851-95.	3 Monetary Stock, 1851-95.	4 Balance used almost entirely in Arts.	5 Probable Amount that would be Exchanged for Gold.	Remarks.
	Ozs.	Ozs.	Ozs.	Ozs.	
1. United Kingdom ...	48,381,	85,234,	—	—	
2. Holland	102,900,	42,953,	59,947,	52,516,	100 per cent. full tender + 20 per cent. arts
3. Germany	321,588,	140,316,	181,272,	82,457,	75 per cent. full tender + 20 per cent. arts
4. Austria.....	73,769,	45,454,	28,316,	19,614,	75 per cent. full tender + 20 per cent. arts
5. Spain	109,890,	34,777,	75,113,	15,023,	20 per cent. arts
6. Portugal	3,997,	5,108,	—	—	
7. Russia	243,593,	27,963,	215,630,	45,121,	75 per cent. full tender + 20 per cent. arts
8. India	1,492,842,	798,657,	694,185,	223,926,	15 per cent. of whole
9. China	324,658,	263,940,	60,718,	48,699,	15 „
10. Australasia	—	4,902,	—	—	
11. Canada.....	—	4,196,	—	—	
12. Central America	—	9,122,	—	4,561,	50 per cent. full tender
13. South „	—	26,604,	—	13,302,	50 „
14. Japan	11,522,	34,796,	—	34,796,	100 per cent. of monetary stock
15. Ceylon	66,071,	51,542,	14,529,	9,911,	15 per cent. of whole
16. Straits and Siam....	193,536,	150,823,	42,713,	29,030,	15 „
17. Scandinavia.....	—	8,639,	—	—	
18. Turkey	—	31,118,	—	31,118,	100 per cent. of monetary stock
19. Roumania, Servia, and Bulgaria	—	13,657,	—	1,291,	50 per cent. of full tender
20. Egypt	—	3,813,	—	3,813,	100 per cent. of monetary stock
21. Mexico.....	—	76,197,	—	76,197,	100 per cent. of monetary stock
22. Other countries ...	76,403,	5,253,	71,150,	—	
Total.....	3,069,150,	1,865,064,	1,443,573,	691,375,	

In estimating the probable amount of silver that would be offered in exchange for gold at $15\frac{1}{2}$: 1, we are met with greater difficulties than in the case of the amount of gold available to pay for the silver, but the figures given in Col. 5 of Statement 14 are estimated on the following basis :—

(*a*) Silver made use of in the arts is on a different footing to gold used for the same purpose. Silver, at one time 60·84*d.* an ounce, gradually fell in price during twenty-five years till it reached $23\frac{5}{8}$*d.*, and is now about 26*d.* It is therefore practically certain that a very large portion of the silver now in the shape of plate, &c., was purchased at a price very much below 60·84*d.*, but whatever it was purchased at, it would still be remunerative to melt up much of this plate and sell it for gold at 60·84*d.* an ounce if it could be again purchased at some future time at a very much lower price, as would be the case if the bimetallic league failed. The popular belief, after the experience of 1873 and since, would be that this would happen, and a vast quantity of silver plate would accordingly be melted and sold, possibly much of it purely for speculative purposes. In Statement 14 the silver produced before 1851, except the circulation of that year, is altogether omitted, while the balance between the circulation of 1851 plus the absorption of each country since then, and the monetary stock at the end of the period, has only been treated as used in the arts. It is obvious that the amount held in the shape of plate and ornaments in each country, including the production and import of earlier years, must be very much greater. For the purposes of this paper, however, this earlier production, for want of information, has necessarily to be omitted, and we have taken only 20 per cent. of the amount shown as used in the arts in Holland, Germany, Austria, Russia, and Spain, and 15 per cent. of the quantity so disposed of in the countries in the East, as representing the amount that would enter the market for sale as bullion.

It will be noticed that no allowance is given for the sale of such silver in countries other than those named above, as no accurate figures are available, but each country would naturally contribute a share. Even the bimetallic countries would probably do the same, and the total given in the statement under this head as available for sale should really be considerably higher.

(*b*) In estimating the amount that would be taken from the monetary stocks we have acted on the following lines :—

(1) In Holland, Japan, and Mexico the full tender coinages, and in Turkey and Egypt, both full and limited tender coinages, give silver a more favourable ratio than $15\frac{1}{2}$: 1, and in all these cases it would be remunerative to melt the coinage down, sell for gold, and if necessary purchase new silver. The margin, it is

true, is small, but the re-coinage would probably be necessary under any circumstances, and the whole of this has accordingly been treated as available for sale.

(2) Germany, Austria, and Russia are all in need of gold to strengthen their gold standards, whilst on the other hand their silver appears to be in excess of requirements; it seems probable that these countries would dispose of at least 75 per cent. of their full tender silver, replacing it by paper money if necessary.

(3) Roumania, Servia, and Bulgaria also require a strengthening of their gold standards, whilst the Central and South American States, already overburdened with paper, would seize the opportunity of obtaining gold, and a possible profit on the sale of their silver; 50 per cent. of the full legal tender of each of these countries has therefore been made available for sale.

(4) China is even now contemplating a gold standard, and despite the antiquated notions of her statesmen, and the dilatoriness of her policy, would no doubt take the opportunity to purchase and accumulate the yellow metal. In addition to this, speculative reasons would lead her merchants, or the merchants of other countries on the spot, to buy up the silver in the country and sell it for gold. The percentage of 15 per cent. of her whole stock allotted for the purpose in the statement is therefore probably a minimum figure, representing only 12,500,000*l.* in gold.

(5) It is a matter of uncertainty what becomes of the large stocks of silver, in proportion to the population, which go to the Straits. It is said that some finds its way to China, but that the bulk is kept and hoarded in the country. If the latter suggestion is correct, the population is sufficiently advanced to realise the superior advantage of hoarding gold instead of silver when rates are favourable, and the probabilities appear to be that this tendency, coupled with speculative reasons, would cause a large export of silver and import of gold. We have, however, allowed only 15 per cent. of the whole stock of the country, equal to 7,355,000*l.*, as available for the purpose. The Straits, as a Crown Colony, would presumably not try to establish a gold standard under the conditions laid down, but if the attempt were made the export of silver and import of gold would be very much greater.

(6) We now come to India, the most important of all the countries. An impression appears to prevail that the conditions proposed, viz., that she should open her mints to silver and close them to gold, would cause silver to flow into the country, and prevent any abnormal absorption of gold. But this impression exhibits a strange ignorance of the peculiarities of the country and her people. India has always had a strong fancy for the

yellow metal, and has absorbed considerable amounts for a long time past. Between 1801 and 1873, the year of the demonetisation of silver, she took 14·5 per cent. of the total production, and during the next twenty years, with a falling rupee and a gradually increased price of gold in relation to the rupee, she absorbed 9·1 per cent. of the production. Between the years 1801 and 1896 she took nearly 150*l.* millions sterling of the metal. It is noticeable that a fall in the silver price of gold has usually been accompanied by a rise in its net import; for example, in 1877 the rupee rose $\frac{3}{4}d.$, and the net import of gold was 1,000,000*l.* higher than in the previous year. In 1880 a rise in the rupee led to a higher net import of 2,400,000*l.* of gold. In 1890 the rupee rose nearly 2*d.* (average), and the net import of gold into India rose from 3,440,000*l.* to 4,544,000*l.* It is also noticeable that in years of steady exchange the import of the metal has steadily continued high; for example, in the four years 1881 to 1884 exchange fell very slightly, and the net import of gold for these years was nearly the same in each year, and amounted to 16,838,400*l.*, equal to 20·2 per cent. of the whole production of the world for the period.

These examples lead to the inference that a great rise in the gold value of the rupee, and the price remaining steady at that figure for any time, would be quickly followed by a heavy increase in the import of gold, even if no other factors entered into play to stimulate the import.

But there would be another and very important factor that must be considered. Previous to 1873 the gold price of silver and of the rupee had remained steady at practically one price for many years. Then the fall commenced, but it was not realized to what depths the price of silver would go, and on each occasion that a temporary reaction took place, it was popularly believed that bottom had been reached. Nothing of any definite character was, however, done to prevent this fall continuing till 1890, when the United States increased their annual purchase of the metal, and silver went up in price with a rush, and it was thought that this increased demand would prevent the price again falling. But the remedy proved quite useless, and the price of the metal soon fell more heavily than before; in 1890 the price was 47·69*d.* per ounce, in 1891, 45·06*d.*, in 1892, 39·81*d.*, and in 1893, 35·62*d.*, thus quickly destroying all hopes of success through the action of the United States. In 1893 the Indian mints were closed, and the United States ceased their annual purchases of silver, and its price fell to 28·94*d.* in 1894.

The closing of the Indian mints, however, had the effect of divorcing the rupee from silver, but any anticipations regarding

its immediate success in fixing the gold price of the rupee were quickly dissipated, for it soon fell rapidly, and continued to mark time with silver, though on a higher level, till 1895, when a contraction of the currency, the result of the currency legislation, commenced to be felt, and the rupee has since been gradually rising in gold price, with varying fluctuations, according to the demands of the exchange banks for money in India, and now temporarily approximates its maximum price of 16*d.* Silver in the meantime fell to 23·62*d.* in August, 1897, and is now about 26*d.* an ounce.

In 1872 a British sovereign could be purchased for about 10 rupees, in 1879 the price was 12 rupees, in 1889 about 14¼ rupees, in 1890 about 12¾ rupees, in 1892 about 15¼ rupees, in 1893, immediately after the closure of the mints, its price fell to 15 rupees, in February, 1894, the average rose to 17·4 rupees, and in May, 1894, to 18·6 rupees, the highest price on record being reached on the 18th May, namely, 19·2 rupees. The price then slightly fluctuated up and down till January, 1895, when the highest monthly average was recorded, namely, 19 rupees. The price then steadily fell till the end of March, 1897, when it was 15·8, it then rose again and reached 16·7 at the end of May, 1897, since when a fall has been in gradual progress, and the price is now a little over 15 rupees.

These facts and figures show what little reliance is liable to be placed on currency legislation by minds which are sensitive only to the operations of the moment, and which do not inquire into reasons and causes. The native of India is gifted with a mind of this nature, he thinks only of the present, and takes no thought of the morrow; he is absorbed with the profit he can derive at the moment, he cannot realise that this profit might eventually prove a loss, and if it did, it would be of small consequence, it would be his *fate*, to which he is perfectly resigned. He is under the impression that the Government in India possesses supernatural powers, and his past experience of the fluctuating value of the rupee as compared with gold, convinces him that the Government can alter the relations of the two metals at will. He believes that the gradually increasing number of rupees required for each sovereign up to 1893, and the gradually decreasing number required during the past two years, were both caused by and for the benefit of the Government, who could again reverse the process at their pleasure; and whatever the precautions adopted to carry it out, it would be impossible to convince him that the relation of the two metals to each other was to be fixed for all time. He would refuse to give the Government credit for being, what he would consider, such fools as to do so, if it was profitable to do

otherwise. He has no complaint against the authorities for possessing and monopolising the power of regulating the exchanges, he recognises that the Government is the lord of the land, and what the lord does must be right; he himself is quite happy and content, his one idea is "pice," and he is always ready to increase his gains when the opportunity occurs.

Amongst the masses there is, however, a small class of native dealers in bullion, and bankers, who, without morals or consciences, possess a wonderful prophetic insight into the future, whilst at the same time they are endowed with a fascination for speculation second only to their love of gain. These men have agents all over the country, and their power over the people, as is usually the case with those who have the command of money, is very great. Their dealings in gold and silver bullion are enormous, and the power they possess appears to enable them to buy and sell at their own convenience and will, and always to their own profit.

Between the years 1801 and 1896, India imported net 1,746,770,000 ozs. of silver, equal to 442,806,000*l.* at 60·84*d.* per ounce, representing 42·6 per cent. of the total production of the world during the period, and before 1800 the amount absorbed must have been very considerable. Of the import since 1800, it is estimated that 798,657,000 ozs. are in circulation or hoarded in the shape of rupees, and the balance, 948,113,000 ozs., less loss by abrasion, wear and tear, &c., is in the shape of ornaments on the arms and ankles, &c., of the native women of the country, the bulk of it in the possession of the poorer classes. These ornaments are rarely treated as permanent possessions, their manufacture costs very little, and they are considered to be merely a more or less safe, and at the same time satisfactory method of holding the savings of a family, being pleasing to the vanity, and convertible into money again at any time, which can still be done, though at some loss as compared with the time when the mints were open. The wealthier classes ordinarily monopolise gold for their ornaments, but every native of India would do the same if he could afford to buy that metal instead of silver for the purpose; every fall in the silver price of gold, however, brings a larger number of people into the category of those who are in a position to substitute gold for silver. Thus we find in India an ignorant mass of people with enormous stores of silver, but with an immense love for gold, whose one idea in life is the possible profit of the moment, and provided that this profit is made, or is thought to be made, are practically in the hands of the native bankers and dealers in all matters connected with their silver stores.

We also find a sharp and unscrupulous set of men, limited in number, who appear to smell gain from afar, and who from

past experience would not for an instant believe that if the rupee price of gold suddenly fell some 25 per cent., it would remain there, and if they did, their love of speculation would lead them to attempt to break the ring by the magnitude of their transactions, which would be facilitated by the almost illimitable store of silver that, by reason of their peculiar power, they could extract at will from the masses of the people.

Lastly, we find that this store of silver at the proposed ratio of $15\frac{1}{2}$: 1 represents over 400,000,000*l.*

The masses now pay 15 rupees *plus* charges for each sovereign in gold; under the proposed conditions they could purchase the same amount of gold for about $10\frac{1}{4}$ rupees *plus* charges, and the inducement to sell their silver ornaments for the purpose would be very great, owing to the high profit they would be able to make. Bullion dealers could continue the purchase of this silver at profitable rates, export it for the purchase of gold, and buy more silver for similar treatment as each shipment of gold arrived, until no more was purchasable; they could then melt down rupees and export the bullion for the same purpose, and continue the process till they succeeded in causing the open mints of the United States and France to be again closed, when the price of silver would again fall tremendously, and the dealers would realise enormous profits.

There is probably very little doubt that what has been sketched out would actually occur, and though it is difficult to estimate precisely what amount of silver would thus find its way into the European market, it is practically certain that if the bullion dealers once commenced the speculation, they would continue it till they arrived at a successful issue. It is quite possible that at least 20 per cent. of the total store of silver in India imported since 1800 might thus be disposed of, equal to 23·4 per cent. of the circulation of India in 1851 *plus* the absorption since that date, but to be on the safe side we have allowed for 15 per cent. only of this amount as available for the purpose.

It may be argued that as the course suggested above was not adopted previous to 1873, when the silver price of gold was the same as now proposed, there is no reason to suppose that it would be followed now. In reply it is only necessary to point out that the circumstances in the two cases are entirely different. In 1873 no one had the faintest idea that the gold price of silver would fall to anything like the extent it has done during the last twenty-five years, whereas now it is known that silver sufficient for all requirements can be profitably produced at 26*d.*, an ounce or less, and that if the United States and the Latin Union suddenly closed their mints, the price of silver would fall from 60·84*d.* to 26*d.* within a very short time, possibly within twelve months.

We now arrive at our final combination.

Combination No. 7.

Gold.	Silver.
Latin Union and United States *v.* The World.	
172,250,000*l.*	691,375,000 ozs. at 60·84*d.* an ounce = 175,264,000*l.*

Thus we find that the success of bimetallism under the condition proposed by the United States is statistically impracticable.

XIV.—*The Future Production of the Precious Metals.*

In this paper we have only discussed what the effect of the proposed bimetallic conditions would be on the stocks of gold and silver in the world at the end of 1895, and it has been shown that the probabilities are that the league would fail, and that the countries attempting to establish bimetallism would have either to close their mints to silver again, or become silver standard countries. It seems hardly necessary, therefore, to discuss the effect of the increased price of silver on its future production, even if it was possible to arrive at any satisfactory conclusion. It is perhaps sufficient to suggest that the great increase in price from 26*d.* to 60*d.* an ounce would cause the production of the metal to be increased enormously, and even if the action of the Gresham law on present stocks did not cause all the gold in the countries concerned to be drawn out by silver, as shown in this paper, it seems more than probable that the greater production of the metal in the future could not be absorbed by the United States, the Latin Union, and India, and the ordinary requirements of other countries, without gradually but surely taking the place of gold in the countries in which it was freely received. It does not necessarily follow that this would prove to be the case if all demands could be met for a few years; on the contrary, if failure was warded off for that time, it is quite possible that success might eventually be achieved, but under any circumstances the double standard of the countries concerned would remain in jeopardy for many years.

The recently discovered gold mines, if they prove to be as rich as they are reported, would materially assist in maintaining the bimetallic conditions, if the countries concerned were not previously converted into silver countries by the existing stocks of the precious metals, but the great rise in the price of silver would also materially increase its production, and it is a question whether the increase in the production of gold would not at least be counterbalanced by the increase in the production of silver.

XV.—*The Note Circulation of the Bimetallic Countries.*

There is another point which has yet to be considered in this connection. It has so far been assumed that the whole of the gold shown in Col. 8 of Statement 13 as available for exchange for silver, would be available for export for that purpose. But this does not necessarily follow, because all the countries concerned have large note circulations, and it is quite possible, if any doubt existed in either of the bimetallic countries regarding the stability of bimetallism, or if gold was leaving the country in any considerable quantities, that notes in circulation would be tendered for gold, and the metal be hoarded within the country. This would in all probability be especially the case in the United States, with notes originally issued against silver. The note circulation of France and the United States at the end of 1895 amounted to :—

		£
France		139,397,397
United States :—		
Gold certificates	£10,403,841	
Silver „	70,015,968	
Currency „	6,584,375	
United States notes	48,094,973	
Treasury notes	24,109,743	
National Bank notes	43,052,882	
		202,261,782

It is quite impossible to estimate how much of the large circulation in each country would be tendered for gold, but the figures given are sufficient to show that there would be considerable danger to the bimetallic conditions from within the country, apart from the danger from outside, unless it was at once declared that the notes were to be inconvertible, a doubtful policy in a country with credit at its back, and with a currency system assumed to be sound.

XVI.—*Conclusion.*

Looking at all the factors in the case, it seems probable that the action of the Gresham law, whether we consider present stocks only, or, combined with it, the future production of the precious metals, would render bimetallism under the conditions proposed by the American Commissioners statistically impracticable, and that the large note circulation in France and the United States, especially in the latter country, with its circulation against silver, would materially assist in breaking down the bimetallic conditions.

The figures and deductions given in this paper have been worked out with a perfectly unbiased mind, with the sole object of arriving at the truth. The figures adopted as the probable amounts available for exchange in Statements 13 and 14 may not be universally accepted; possibly in some cases a higher figure might be allotted, in others a lower one, but in the light of the reasons and explanations given, the majority will probably agree in the final result. Had a lower ratio than $15\frac{1}{2} : 1$ been suggested, the chances of success would have been very much greater, but India is undoubtedly the most important factor in the question, and no certainty of success is possible as long as the rupee does not rise higher than 16*d.* in value, or as long as the ratio decided on gives the rupee higher value than 16*d.* or 17*d.* at the utmost.

Bimetallism on such conditions is no doubt what would suit India best, though possibly bimetallism on any conditions might be unsuitable to England. If bimetallism at $15\frac{1}{2} : 1$ is, therefore, established at any future time on such terms as recently suggested, the probabilities are that it would eventually fail, and the crash to trade would be tremendous. To prevent this, gold monometallists in England would do wisely to consent to the establishment of a gold standard in India, even if a certain amount of gold, say 15 or 20 million £, is required for the purpose.

Under the scheme which the writer of this paper has had the honour to offer for consideration, the bulk of the gold so accumulated might eventually be held in Government consols, and the gold be thus again put into circulation in England, after the gold standard had been properly established, probably in a couple of years or so. If, however, the establishment of a gold standard is now prevented by the opposition of those who consider that further appreciation of gold would result, some future finance minister in India with bimetallic tendencies, may think it better to make the experiment of a high ratio bimetallism than to continue the present system of no standard and a fluctuating rupee.

MISCELLANEA.

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I.—*Mr. James Heywood, M.A., F.R.S., F.G.S., &c.*

The death last autumn of Mr. James Heywood, M.A., F.R.S., F.G.S., &c., has not only deprived the Society of its oldest member, but of the last survivor of those who joined it in 1834, the year of its establishment. During the long period of sixty-three years which intervened before his death in 1897, no one took a larger interest than Mr. Heywood in its successful progress and development. In 1875-77 he filled the office of President, and until a very advanced age he attended the meetings of the Council with great regularity, and gave it the advantage of his ripe experience in all the various matters which demand attention in the management of a scientific society. Even in his retirement from active life, the work which it pursued, and the results of its efforts, were always present to his mind; and, as evidence of how much he was in touch with the objects it had in view, the Council has gratefully to put on record that, by his Will, a bequest of the generous legacy of Five Hundred Pounds (500*l.*) has become payable to the Society, and will serve, it is hoped for many years, to remind those who were associated with him on the Council of their late lamented and respected colleague. Mr. Heywood's career is of course well known to the majority of the Society's older members, but it may be interesting to younger and to foreign members if a few facts be added to the present notice. Born in 1810, the son of a member of a distinguished and wealthy Manchester banking family, he went to Cambridge University, but was unable to take his degree, as he was a Unitarian. He entered Parliament as Member for North Lancashire, 1847-57, and had much to do with the promotion of university reform, and in aiding the efforts in that direction of Lord John Russell and Mr. Gladstone. In June, 1856, Mr. Heywood was successful in

carrying, by a vote of 233 against 78, in the Commons, an Act doing away with the religious tests at Cambridge for the B.A. degree in law, medicine, and music. He was a very active member of the British Association, and presided over several of its sections, particularly those of political economy and statistics, and geology; he wrote many papers on these subjects, and other publications relating to university reform. The following are the most important papers which he contributed from time to time to the *Journal of the Statistical Society*:—

Report of a House-to-House Inquiry into the State of 176 Families in Miles Platting, Manchester, 1837. (Vol. i, p. 34, 1838-39.)

The Resources of Brazil. (Vol. xxvii, p. 245. 1864.)

Form of Government and Educational System of Cambridge University. (Vol. xxi, p. 1. 1868.)

Inaugural Address as President, 1875. (Vol. xxxviii, p. 413. 1875.)

Opening Address as President, 1876. (Vol. xxxix, p. 621. 1876.)

Owens College, Manchester, and a Northern University. (Vol. xli, p. 536. 1878.)

II.—*Miscellaneous Applications of the Calculus of Probabilities*—Contd.[1] By Professor F. Y. Edgeworth, M.A., D.C.L.

III. My next study relates to the excess of male over female births, and the conditions which determine variations in that excess. Some additional information bearing on this old problem has been furnished by the Registrar-General in the first part of his decennial supplement to the fifty-fifth annual report, recording the numbers of male and female births for each of the districts in England and Wales.[2] In the light of these and older data I propose to consider some evidence of differences with respect to the attribute under consideration between different localities in this country.

The beginning of science in this matter is the recognition of its opposite, a chaotic element not amenable to rule. What real and permanent tendencies there are lie hid beneath the shifting superfices of chance, as it were a desert in which the inexperienced traveller mistakes the temporary agglomerations of drifting sand for the real configuration of the ground. For example, observing that in Rutlandshire for a particular year, *e.g.*, 1879, the male births were so far from showing the normal excess, as to be actually fewer than the female births, we might suppose that "this effect defective comes by cause." We might hope by attending to the

[1] See *Journal of the Royal Statistical Society* for September, 1897.

[2] *Command Paper*, 7769.

particular circumstances of that year and place to frame an hypothesis as to the conditions under which that deficiency of male births would recur. But the Calculus of Probabilities deters us from this inquiry; we might as well expect to determine the conditions under which a slightly loaded coin tossed at random would on any particular occasion give head or tail. The fact that out of some 700 births for the year 1879 in Rutlandshire, the proportion of male to female births was 976 : 1,000, is comparable to the fact[3] that out of 700 throws of a coin the proportion of heads to tails was 976 : 1,000. Neither fact creates much presumption of a permanent tendency, a loading in favour of the alternative which has occured most frequently. On the supposition that Rutlandshire does not really differ in respect of the attribute in question from England as a whole, in which the proportion of male to female births was 1,036 : 1,000 in the year 1879—on the supposition that the coin is so loaded as in the long run to give a proportion of 1,036 heads : 1,000 tails—it would be nothing extraordinary that for 700 throws the proportion should prove to be 976 heads : 1,000 tails. For the probable error or deviation from the average figure 1,036 is found to be nearly 50.[4] A deviation of 60 is therefore not significant.

The test which the calculus furnishes for distinguishing between the semblance and the reality of law in such cases was illustrated in my Methods of Statistics already referred to. I propose now to

[3] For the justification of this analogy, see my article on *Methods of Statistics* in the Jubilee number of the Royal Statistical Society, p. 198. I have added some elucidations of this article in the *Jahrbuecher der Nationaloekonomie und Statistik*, vol. xi (Feb., 1896), p. 274, and vol. xii (Dec. 1896), p. 838, in reply to Dr. Bortkevitch's misinterpretations in the same Journal.

[4] Let the permilleage of male births in the country per 1,000 females be 1,040. The number of male births to the total number of births in the country is then $1{\cdot}04 \div 2{\cdot}04$. If out of all the births in the country groups numbering 1,000 are taken at random and the ratio male : (male + female) obtained for each group, the series of these fractions will range about the average $1{\cdot}04 \div 2{\cdot}04$ according to a probability curve of which the modulus is

$$\sqrt{\frac{2 \times 1{\cdot}04 \times 1}{1{,}000}} \div 2{\cdot}04 = \sqrt{{\cdot}00208} \div 2{\cdot}04.$$

Put $(1{\cdot}04 \div 2{\cdot}04 + r)$ $[\div 1]$ for the ratio of male to total births in any of the groups numbering 1,000 births; and $(1{\cdot}04 + \rho)$ $[\div 1]$ for the ratio of male to female births in the same group.

$$\text{Thus } \frac{1{\cdot}04}{2{\cdot}04} + r = \frac{1{\cdot}04 + \rho}{2{\cdot}04 + \rho}$$

Therefore $\rho = (2{\cdot}04)^2 r + 2{\cdot}04 r\rho$. Whence r and therefore ρ, being small, usually and excepting it may be one case in ten thousand—as appears from the modulus of r above given—neglecting $r\rho$, we have $\rho = (2{\cdot}04)r$. Therefore the modulus of $\rho = (2{\cdot}04) \times \sqrt{{\cdot}00208} = 0{\cdot}093$ nearly. Therefore the modulus of 1,000 $(1 + \rho)$ the number of male births per mille of female $= 93$ nearly. This result is not sensibly altered if the permilleage of male births is, instead 1,040, any figure in the neighbourhood. For instance, for the permilleage 1,037, the modulus is 92·77. It is 93·2 for the permilleage 1,042. This result agrees with that which is given in my former article in the Jubilee number of this *Journal*, p. 199, where the modulus for a group of 6,000 is taken at 38. For modulus for 6,000 $=$ modulus for $1{,}000 \div \sqrt{6} = 93{\cdot}2 \div \sqrt{6}$ nearly $= 38$ nearly.

indicate a further and more delicate application of that touchstone.

If looking down the series of proportions between male and female births in the English counties for any particular year, *e.g.*, 1873, we find the figure for Cumberland, namely, 1,091 : 1,000, to be the greatest, we might at first suppose this large excess to be significant or indicative of law. For according to the ordinary test we see that the total number of births in 1873 being 7,977, the *modulus* or measure of deviation is about 32 ; whereas the observed deviation from 1,039, the average for all England, is 51. The odds against such a deviation occurring by mere chance prove to be about 50 : 1.

But in this reasoning it is presumed that we know nothing about the observed deviation, except that it has occurred. But in the case before us we know something more about the observation, namely, that it has been selected as the greatest out of 45. An extent of deviation which is very unlikely at any one trial is not so unlikely to occur in the course of 45 trials. This special, as well as the general, application of the mathematical test is required in interpreting the statistics of birth in districts which the Registrar-General has given in his supplementary report for the decennium 1881-90. It appears that out of the 632[5] districts there are forty-five which in this period do not present excess of male over female births.[6] Are we justified in regarding this complex event as more than accidental? Ought we to expect that in another decennium these forty-five districts would at least tend to an excess in females?

First, it is to be remarked that many of these districts are small; in some of them the number of births is below 2,000. In a district with only 2,000 births the odds are slight against an excess of females, that is against a deviation of at least 37 from the general ratio of males to females for all the districts in the decennium, which is 1,037. The modulus proper to a district with 2,000 births being about 65, a deviation to the extent of 37 in any such district may be expected to occur nearly as often as not; *a fortiori*, for numbers fewer than 2,000.

For greater precision I have divided the districts into classes of different sizes. For each class I determine the number of districts with excess (or equality) of females which may be expected to occur by chance, without the existence of any real predisposition towards feminine natality. The calculation is exhibited in Table I annexed; of which the first column divides the districts into eleven classes, according to the number of births in a district; the second column gives the number of districts belonging to each class; the third column gives a number of births intermediate between the limits of each class, a number taken—not very accurately—as the average of the class. The fourth column is formed

[5] Virtually 632, since one of the 631 which figure in the official statistics (namely the first) is double (made up of IA and IB).

[6] My attention was called to this circumstance by Mr. Edwin Cannan, who has adverted to it in the *Economic Review* (vol. vi, p. 544). He kindly gave me the names of the forty-five abnormal districts. In one or two of them the number of male and female births is *equal*.

by dividing each entry in the third class ÷ 1,000, forming a value of n, into 8,673, taken as the square of the modulus for a group of 1,000 births.[7] The fifth column gives the modulus for each class; the sixth column the number of times this modulus is contained in 37, the distance from 1,000 of 1,037 the mean permilleage for all the districts. The seventh column, taken from the first table appended to Demorgan's *Theory of Probabilities*, gives the values of $\sqrt{\pi}$ × probability of each limit in the sixth column being exceeded. The eighth column is formed by multiplying the absolute numbers in the second column with the probabilities ($\times \sqrt{\pi}$) in the seventh. Totting up the eighth column, we have 87·6 for $\sqrt{\pi}$ × probable numbers of districts showing excess of females. That number therefore is 49, a little larger than, or rather, considering the roughness of the calculation, we may say of the same order as the observed number 45:[8]—

TABLE I.

1 Number of Births Defining Classes.	2 Number of Districts of each Class.	3 Mean Number of Births in each Class.	4 Fluctuation = 8,673,000 ÷ Entry in Col. 3.	5 Modulus = Square Root of Entry in Col. 4.	6 $\frac{37}{\text{Modulus.}}$	7 Proportion of Deviations exceeding 37.	8 $\sqrt{\pi}$ × Probable Number of Districts with Excess of Female Births = Entry in Col. 2 × Entry in Col. 7.
500	3	750	11,564	107	0·34	0·5589	1·67
1,000	26	1,500	5,782	76	0·49	0·4328	11·25
2,000	47	2,500	3,469	59	0·63	0·3305	14·53
3,000	78	3,500	2,478	50	0·74	0·2617	20·41
4,000	69	4,500	1,927	44	0·84	0·2081	14·36
5,000	100	6,000	1,445	38	1·00	0·1394	13·94
7,000	78	8,500	1,020	32	1·15	0·0921	7·28
10,000	84	12,500	691	26	1·40	0·0423	3·53
15,000	34	17,500	497	22	1·66	0·0167	0·57
20,000	22	25,000	348	19	2·00	0·0041	0·08
30,000 ...	91	? 50,000	193	13	2·85	0·0000	0·00
Totals....	632	—	—	—	—	—	87·62

[7] This number, as appears from note 4 above, does not quite correspond to the ratio 1,037 : 1,000. But the effect of the inaccuracy is not sensible.

[8] By a calculation analogous to that set forth in Table I, but using the upper extreme limit of each class instead of the mean, *i.e.*, substituting 1,000 for 750, 2,000 for 1,500, and so on, I find as the number of districts with excess of female births likely to occur by chance, on the supposition that the districts were larger than they are, that is a number smaller than—an inferior limit to— the true number, 43.

Thus the observed defect of male births in the districts under consideration raises no presumption that the constitution of those districts is different from that of average England.

These results may be verified by examining the returns for another decennium. Arranging as before, the forty-five districts which presented excess or equality of female births in the period 1881-90 in classes defined by number of births, I find by analogous reasoning that, out of those forty-five districts, the number which might be expected in another decennium to occur by mere chance is 5. And 5 is the number which actually occurred, as I learn from the Registrar-General, who has had the kindness at my request to extract from hitherto unpublished records the numbers of male and female births in the forty-five districts in the period 1871-80.

Once more let us compare for a *third* decennium the calculated with the observed number of districts showing no excess of male births, out of those 5 which have already *twice* presented that peculiarity. The calculation, which is in principle the same as the preceding, but affects greater precision than was convenient when dealing with a large number of districts, is exhibited in Table II annexed. The first column contains the name of districts which have already presented excess of female births *twice*—in the decennia 1881-90 and 1871-80. The second column contains the number of male births in each district during the period 1861-70; the third column the corresponding number of females. These numbers have been communicated to me by the kindness of the Registrar-General. The fourth column containing values of n is obtained by adding together the figures belonging to the same row in the second and third columns, and dividing the sum by 1,000. The square root of n, divided into 93, the modulus for a group of 1,000 births, gives the modulus for the district. This modulus divided into 42, the distance from 1,000 of 1,042, the mean permilleage for all the districts, gives the limit t which is entered in the fifth column. The sixth column, derived from Demorgan's Table I above referred to, gives $\sqrt{\pi} \times$ the probability of each limit being exceeded. Totting up this column, and dividing the sum by $\sqrt{\pi}$, we find that the number of districts out of the 5 which may be expected to show excess of female births is 0·7; more nearly one than none. In fact, as we see from the first two columns, *none* occurred. There is thus no evidence of a peculiarity in the constitution of these five districts tending to an abnormal number of female births. The occurrence of no excesses rather than one is doubtless purely fortuitous. The *à priori* chances against the occurrence are almost even; as I find by determining (from Col. 6 of the annexed table, or directly from the familiar tables in the books) the probability that each district should fail to present excess of female births, and multiplying together these five probabilities. The product, being the probability that none of the districts should present that phenomenon, is about 0·48. That an event, of which the *à priori* probability is 0·48, should occur, need excite no curiosity.

TABLE II.

1 Districts.	2 Number of Male Births.	3 Number of Female Births.	4 n.	5 $42 \times \sqrt{n} \div 93 = t$.	6 $\sqrt{\pi} \times \int_t^\infty e^{-x^2} dx$.
Fordingbridge	1,081	926	2·007	0·64	0·3238
Leyburn	1,401	1,321	2·722	0·745	0·2588
Kingselere	1,379	1,375	2·754	0·75	0·2560
Newent	2,062	1,852	3·914	0·89	0·1845
Westbury	1,866	1,810	3·676	0·87	0·1937
	—	—	—	—	1·2168

Doubtless the true averages, the real constitution, if it could be ascertained, would not prove to be identical for all the districts. The 632 permilleages do not as it were emanate from one central source, the general *mean*, 1,037; but from a set of sources in that neighbourhood. Probably of the forty-five districts which do not present the excess of males, rather more than half have their true average somewhat below 1,037; only the methods which have been so far employed are not sufficiently delicate to detect this circumstance.

I have obtained a similar conclusion or inconclusiveness by operating on the ratios for the different counties of England and Wales in one and the same year: forty in all, London being omitted as too large, and as too small, Huntingdonshire, Herefordshire, Rutlandshire, and Westmoreland. I proceed to ascertain how frequently the permilleage for each county may be expected to fall at a distance from the mean of all the (forty) counties greater than 19, or rather 18·75; this particular deviation being selected somewhat arbitrarily, as being approximately a simple fraction, viz., a fifth of the modulus which had been determined for a group of 1,000 births, viz., 93. For a county having $n \times 1{,}000$ births in the year considered, a deviation of 18·75 corresponds to a deviation of $0{\cdot}2 \times \sqrt{n} \times$ modulus; the probability of which deviation is to be found in the usual tables. The number of permilleages below the limit thus assigned may thus be calculated for each and all the counties, as shown in the annexed (part of) Table III.

In this table the first column gives the names of the registration counties (with the omission of four counties, as well as London, for reasons given above). The second column gives the approximate square root of n, the number of thousands of births in each county in the year 1883.[9] Thus in the first registration county, viz., Surrey ex-metropolitan, there were 14,623 births, and accordingly 3·8 figures in Col. 2. The third column is

[9] The materials of Table III and the following tables are taken from the Registrar-General's Annual Reports.

derived from the second by taking the fifth part of each entry. The fourth column gives $\sqrt{\pi} \times$ probability of a deviation occurring below the limit for each county designated in the third column. The figures in the fourth column are taken from the tabulation of the definite integral given by Demorgan at the end of his *Theory of Probabilities*. Summing Col. 4, we have $\sqrt{\pi} \times$ the probable number of permilleages below 19·75 (from the mean of all the counties). Dividing this sum by $\sqrt{\pi}$, we have for the required number, approximately 6. This calculation may be applied to proximate years, as there is not much change in the values of n from year to year.

Actually counting the number of permilleages at a distance 18·75 from the mean of the (forty) counties for each year, I find the following results :—

1876	1877	1878	1879	1880
5	8	5	4	5

The average of these numbers is 5·4, not significantly different from 6, the number to be expected.

TABLE III.

1 Designation of County.	2 $\sqrt{n}$.	3 $0{\cdot}2 \times \sqrt{n} = t$.	4 $\int_t^\infty e^{-x^2} dx$.
Surrey*	3·8	0·76	0·25032
Kent*	4·9	0·98	0·14690
Sussex	3·9	0·78	0·23927
⋮	⋮	⋮	⋮
South Wales	5·5	1·1	0·10617
North „	3·6	0·72	0·27346
	—	—	10·6 ($\div\sqrt{\pi} = 6$)

* Extra-metropolitan.

I find a similar result if 0·1 × modulus, instead of 0·2 × modulus, is used as the test. By parity of reasoning—this time using the data of 1878 for the values of n—I find for the probable number of negative deviations, to the extent of 9·25, from the mean of each year, 11·5. And the average observed for the years 1876-80 proves to be 10·6.

This reasoning is equally applicable to deviations in a positive direction. On the supposition that there is no real difference between the forty counties, we may expect to find six of the forty permilleages at a distance of 18·75 and upwards from the average for each year, and 11·5 at a distance of 9·25 and upwards. And, in fact, I find that for the five years 1876-80, on an average, the former

number is 6·8, the latter 11. So far then there are no traces of a *vera causa.*

The same result is reached by employing the set of ratios presented by the counties to determine the *modulus* or measure of deviation from the mean for a group of assigned size. The measure thus found is exactly the same as, or rather is not distinguishable from, that which would have been found if there had been no difference of constitution between the counties. This result was given by me in the paper already referred to.[10] It may be well to add here some explanations and examples.

Take as the *quæsitum* the modulus for a group of 1,000 births.[11] Find the deviation of the ratio for each county from the general mean, that is the proportion of all the male births to all the female births in the forty selected counties, expressed as a permilleage. For any particular county with $n \times 1{,}000$ births, twice the square of the deviation is a measure of, or observation standing for, the modulus-squared $\div n$. Thus, the deviation-squared $\times n$ stands for the modulus. The forty observations thus obtained for the square of the required modulus are of equal weight. Accordingly their sum divided by 40 is the best value that can be obtained from them for the modulus-squared, or, as I have ventured to call it, the *fluctuation.*

The method of calculation is shown in the annexed (part of) Table IV. The first column specifies forty registration counties (Huntingdonshire, Herefordshire, Rutlandshire, and Westmoreland, as before, being omitted). The second column gives the ratio of male to female births in the form of a permilleage for each county for the year 1883. The third column gives the deviation of each permilleage from the average for the forty counties; which is found to be (approximately) 1,035. The fourth column gives the square of each deviation. The fifth column is a factor approximately proportioned to the number of births in each county. Thus in Surrey there were 14,623 births in 1883. Accordingly I put in round numbers 14·5 for n, the number of thousands of births. Similarly the factor 23 corresponds to 23,030 births in Kent; and so on. The sixth column, formed by multiplying corresponding entries in the fourth and fifth columns, gives forty observations for the required fluctuation. The sum of these forty observations is 122,190. I am indebted for this and some of the following results to Mrs. Bryant, D.Sc., who has either performed, or has caused to be performed, and answers for, the somewhat laborious computations involved:—

[10] *Journal of the Royal Statistical Society,* Jubilee volume, p. 199.

[11] The number thus taken for the standard group is of course arbitrary. In the former paper the number taken was 6,000.

TABLE IV.

1 Registration Counties.	2 Permilleage for 1883.	3 Deviation from 1835.	4 Square of Deviation.	5 Weight.	6 Weight × Square of Deviation.
Surrey*	1,021	− 14	196	14·5	2,842
Kent*	1,027	− 8	64	23	1,472
Sussex	1,028	− 7	49	15	735
Hampshire	1,038	+ 3	9	18	162
⋮	⋮	⋮	⋮	⋮	⋮
South Wales	1,045	+ 10	100	30·5	3,500
North „	1,039	+ 4	6	13	208
	....	....	....	....	122,190

* Extra-metropolitan.

From a similary constructed table for another year, viz., 1895, the sum of squares is found to be 186,089. Combining these results we have for the required *fluctuation* $2 \times (186{,}089 + 122{,}190) \div 80 = 7{,}707$. Whence modulus $= \sqrt{\text{fluctuation}} = 88$ nearly.

If there was a real difference between the counties we might expect the modulus thus ascertained to exceed that which is deducible from the hypothesis of pure chance, namely (for a group of 1,000 births), 93. But, on the contrary, the figure obtained by averaging the results for two years is considerably below the normal 93. Doubtless this defect is merely accidental, as indeed the discrepancy of 5 does not much exceed the probable error incident to such a calculation.[12]

By way of further verification I have ascertained the modulus (for groups of 1,000 births) from the data of another year by a different method. Let e be the deviation of the permilleage for any county from the general ratio. Then, if the number of births in each county were 1,000, by a well known theorem we should have for the modulus $\sqrt{\pi} \times \mathrm{S}e \div 40$. Account being taken of the fact that the modulus for each county is inversely proportional to the square root of the number of births in the county, the formula for the standard modulus pertaining to a group of 1,000 births becomes $\mathrm{S}\sqrt{n}\, e \times \sqrt{\pi} \div 40$, where n as before is the number of thousand births in each county during the period under consideration. Applying this formula to the statistics for 1878, with the same valuable assistance in the work of calculation as before, I find $\mathrm{S}\sqrt{n}\, e = 1{,}859{\cdot}3$.

The method by which this figure is arrived at will be apparent

[12] Regarding the *fluctuation* as to the quantity to be determined, we have by a known theory for the *modulus* of the fluctuation itself divided by $\sqrt{n}$. Whence the modulus pertaining to the determination of the modulus (from observations for the fluctuation) is the modulus divided by $2\sqrt{n}$, in the case before us $93 \div 2\sqrt{80} = 5{\cdot}2$.

on inspection of Table V annexed. The first three columns correspond to those of Table IV; 1,042 being taken as the mean permilleage for the forty counties. The signs are not affixed to the deviations now, as we are concerned with their absolute magnitude. The weights are round numbers approximately equal to the square root of the number of 1,000 births in each county for the year in 1878. Thus the number of births in Kent (extra metropolitan) that year being 22,587, 4·8 is put for $\sqrt{n}$. It does not seem necessary to exhibit the complete table.

For the modulus we have $1859{\cdot}3 \times \sqrt{\pi} \div 40 = 82$ nearly; as before, considerably below the normal value, namely, 93, as before, affording no trace of law, since, if the forty observations emanated from different averages, we should expect the modulus determined as above to be *greater* than 93.

TABLE V.

1. Registration Counties.	2. Permilleage for 1878.	3. Deviation from 1,042.	4. Weight.	5. Weight × Deviation.
Surrey*	1,020	22	3·6	79·2
Kent*	1,038	4	4·8	19·2
Sussex	1,034	8	3·8	30·4
⋮	⋮	⋮	⋮	⋮
South Wales	1,037	5	5·5	27·5
North „	1,049	7	3·8	26·6
	—	—	—	1859·3

* Extra metropolitan.

Foiled in our investigation of the annual ratios for the counties, let us turn to the decennial periods.

By an operation analogous to that which is exhibited in Table III, I find that out of the permilleages relating to periods of ten years, 2·5 may be expected to be at a distance above or below the decennial mean of 9·25 upwards. In fact, I find for the three decennia 1861-70, 1871-80, 1881-90, the decennial means (for the forty counties) being respectively 1,043, 1,038, 1,037, the undermentioned counties in defect by more than 9·25 :—

1861-70.	Surrey, Berkshire, Warwickshire, Hertfordshire	4
'71-80.	„ Bedfordshire	2
'81-90.	.....	0
		6

The average for the three decennia is 2, or perhaps $2\frac{1}{3}$, as there are two observations—1,029 for East Riding in 1871-80, of which the average is taken as 1,038, and 1,028 for Worcestershire in 1881-90, of which the average is taken as 1,037—which are nearly on the line, and might perhaps be over it if the average for the

forty counties were calculated more exactly. Thus we have still no trace of an agency other than chance.

Next, looking at the deviations in a positive direction for the three periods, I find the undermentioned counties in excess by more than 9·25 :—

1861-70.	Northamptonshire, Cornwall, Northumberland, Cumberland, North Wales	5
'71-80.	Hertfordshire, Bedfordshire, Norfolk, Cornwall, Shropshire, Durham, North Wales	7
'81-90.	Oxfordshire, Bedfordshire, Cornwall, Cheshire, Cumberland, Monmouthshire, North Wales	7
		19

The average is above 6, whereas 2·5 is all that we had a right to expect. Here then at last we find a glimmer of light. Following it, we observe that Cornwall and North Wales presenting so large an excess in three successive years, challenge inquiry; Cumberland too in a less degree. To extend the field of hypothesis, let us observe what other counties have been above the decennial mean for all three periods. Of such counties there are, I find, including the three just mentioned, *ten;* whereas on the hypothesis of pure chance we should expect only *five* such coincidences (out of the forty counties). *Primâ facie* five out of the ten cases are not fortuitous. Let us take as the most promising subjects of inquiry the three above named, and also those which have the largest excess on the average of the three decennia above the mean for each decennium, namely, Norfolk, for which this average deviation in excess is 9; North Wales and South Wales, for which it is 7. Of these South Wales, which the Registrar-General[13] has bracketed with the trio above first selected, Cumberland. Cornwall, and South Wales, is remarkable for the constancy of its permilleages in the three decennia, respectively 1,047, 1,046, 1,046.

To test the hypothesis which has been suggested, let us compare the annual permilleage for each of the five selected counties with the mean value for the corresponding decennium, to see if there is a permanent tendency to excess. Table VI annexed shows in its first two columns the result of the comparison; years showing deviation in a positive direction from the mean of the decennium being designated as "in excess," years showing negative deviation as "in defect." The third column shows the odds against the observed disparity having occurred by chance; positive or negative being treated as *a priori* equally probable. The result is verified by showing in Cols. 5 and 6 what proportions of the districts constituting each county showed excess of male births in the period 1881-90.

[13] See the interesting suggestions on this subject at p. ix of the Fifty-fourth *Annual Report of the Registrar-General* (1891).

TABLE VI.

1 Selected Registration Counties.	2 Number of Years in Excess.	3 Number of Years in Defect.	4 Probability of Event being Fortuitous.	5 Total Number of Districts.	6 Number of Districts in Excess.
North Wales	24	6	0·002	19	14
South „ *	24	6	0·002	27	18
Cornwall	22	8	0·011	14	10
Norfolk	22	8	0·011	22	15
Cumberland	19	11	0·14	6	6

* Two years, 1871 and 1880, giving 1,038, the same as the mean of the decennium, are counted as one +, the other −.

Returning on our steps, let us investigate the appearances of deficiency in male births by the method which has been successfully applied to the cases of excess. I find that there are eight counties which present defect from the decennial mean in all three decades, namely, Essex, Suffolk, Wiltshire, Staffordshire, Worcestershire, Warwickshire, West Riding, and Lancashire. As chance will only account for five such coincidences, we may suspect that some of these are due to law. I have selected as the most promising cases Wiltshire, Staffordshire, and Warwickshire; and have constructed for these counties Table VII, analogous to Table VI.

TABLE VII.

Selected Registration Counties.	2 Number of Years in Defect.	Number of Years in Excess.	4 Probability of Event being Fortuitous.	5 Total Number of Districts.	6 Number of Districts in Excess.
Staffordshire	22·5*	7·5	0·006	16	11·5*
Warwickshire.....	20·5*	9·5	0·043	14	9·0
Wiltshire	20·0	10·0	0·066	16	12·0

* Where the permilleage of a year or district is *equal* to that of the decennium, an excess and a defect of 0·5 are attributed to that year or district.

Striking at first sight as this result is, I am not satisfied that it is more than fortuitous. That an event of the probability 6 in 1,000 presented by the returns for Staffordshire, should occur in the course of forty trials is not very improbable; the odds against the occurrence being less than 4 to 1. The observed distribution of the districts does not afford a quite *independent* improbability. Granted that the county of Staffordshire is exceptionally deficient in male births during the decennium 1881-90, it may be expected that its constituent districts also should be deficient.

To sum up, a test has been constructed which invalidates many

plausible theories, but confirms the Registrar-General's observation that North Wales, and South Wales, Cumberland, and Cornwall show a real tendency to exceptional excess of male births. Some evidence that Norfolk belongs to the same category is not very strong; not fatal to the hypothesis that the peculiarity is due to the population in the exceptional localities being Celtic.[14]

III.—*Commercial History and Review of* 1897.

The following is taken from the supplement to the *Economist* of 19th February, 1898, in continuation of similar extracts for previous years.

"Although industrially 1897 was a better year than 1896, yet so far as our foreign trade is concerned, it must be characterised as a disappointing one. It certainly did show some improvement upon its predecessor, but not by any means such an improvement as was hoped for and expected. Here is the record :—

	1897.	1896.	Increase or Decrease.	
			Amount.	Per Cent.
	£	£	£	
Imports	451,239,000	441,809,000	+ 9,430,000	2·1
Exports of home products	234,350,000	240,146,000	− 5,796,000	2·4
Re-export of foreign and colonial merchandise	59,834,000	56,234,000	+ 3,600,000	6·4
Total trade	745,423,000	738,189,000	+ 7,234,000	1·0

"The increase of 1 per cent. last year contrasts with an increase in 1896 over 1895 of a little over 5 per cent., while the total for 1895 exceeded that of 1894 by about 3 per cent. And if we deal not with the value, but the volume of our trade, the comparison is even less favourable. The method of effecting such a comparison is shown in Appendix A, and briefly stated, it is this. The value of the imports and exports of the year are calculated at the average prices of 1896, and the aggregate thus obtained is compared with the recorded total for 1896. Calculated in this way, it is obvious that as the values are worked out for both years at the same average prices, any increase or decrease in the aggregate must be due to variations in quantity. And what the movement was last year and in immediately preceding years will be seen from the following statement :—

[14] *Annual Report of the Registrar-General* (1891), *loc. cit.*

Volume of Our Foreign Trade. Increase or Decrease per Cent. as compared with previous Years.

	Imports Retained for Home Consumption.	Exports of Home Produce.	Imports and Exports.
	Per cnt.	Per cnt.	Per cnt.
1897	+ 1·64	− 1·39	+ 0·51
'96	+ 6·06	+ 4·87	+ 5·50
'95	+ 5·54	+ 8·57	+ 6·66
'94	+ 9·95	+ 3·35	+ 7·39
'93	− 1·42	− 2·10	− 1·68
'92	+ 0·33	− 3·43	− 1·17
'91	+ 4·34	− 5·30	+ 0·25

"The re-exports of foreign and colonial merchandise are excluded from this table, but it certainly is not an unsatisfactory feature of the year's business that in these there was an increase of fully 8 per cent. in quantity and nearly 6½ per cent. in value. This *entrepôt* trade is a profitable portion of our foreign commerce, and it is one that great efforts have of late years been made to deprive us of; and that, in spite of these, we have not only maintained, but augmented it is an achievement upon which we may fairly congratulate ourselves. But taking the imports retained for home consumption, there was last year an increase of only 1·64 per cent., as compared with an expansion of 6·06 per cent. in 1896; while the exports of home products, which during the previous three years had shown a continuous growth, fell off in 1897 to the extent of 1·29 per cent. In imports and exports combined, the increase, as compared with 1896, was only 0·51 per cent., a rate of expansion which contrasts very unfavourably with that of 1894-96, and is less than that of the growth of our population. But the causes of the comparative unexpansiveness of our foreign trade last year are not far to seek. For one thing, many of our best customers were suffering from bad harvests, and were consequently unable to buy from us as much as they otherwise would have done. It is true that this worked to the advantage of the United States, where abundant crops were reaped, which, owing to the scarcity elsewhere, it was easy to dispose of at relatively high prices. But there was no corresponding increase in the imports of foreign products by the States, because of the prohibitive effect of the new Dingley tariff, and our trade, consequently, did not obtain in that direction any appreciable compensation for the contraction in other quarters. Then, as the result of famine and plague, there was a falling off of about 2,200,000*l.*, or nearly 7 per cent., in our exports to India. The drought in Australia and rinderpest, together with the unsatisfactory condition of the gold mining industry in South Africa, checked business with those colonies; while partly owing to bad crops, and partly to political unsettlements, there was a great falling off in our trade with most central and South American States. And, in addition to these troubles extraneous to ourselves, there was at home the prolonged dispute in the engineering trade, now happily brought to a close, which caused orders that would have come to us to be placed elsewhere and rendered it impossible

to carry out those on hand. It would, of course, be idle to ignore the fact that our export trade did suffer to some extent, especially in the iron and steel trades, from the competition of the United States, where the cost of production has been very greatly reduced of late years. In the opinion of many also, German competition is a factor to be taken into account, but that can hardly have affected us specially last year, for although during it the total value of the German exports increased while that of our exports diminished, the increase was not in the classes of goods in which German competition is most felt, such as manufactures of cotton, wool, and iron and steel, which were, on the contrary, shipped in smaller quantities. It would appear, therefore, that what our export trade suffered from last year was chiefly what it may be hoped was only a temporary falling off in the purchasing power of a number of our chief customers, and however unsatisfactory it may be that the ground should have been lost for that reason, it is not so bad as if the cause of retrogression were that we had failed to keep pace with our commercial rivals.

"But while our foreign trade showed such a disappointingly small growth, there is every reason to believe that our home trade continued to make satisfactory progress. The best evidence of this is afforded by the traffic returns of our railway companies. Taking the fifteen chief English railway companies whose accounts are summarised in Appendix B, the traffic receipts for 1897 compare with those for 1896 thus:—

	Passengers and Parcels.		Merchandise.		Minerals.	
	1897.	1896.	1897.	1896.	1897.	1896.
	£	£	£	£	£	£
First six months	14,475,600	14,033,700	10,286,800	9,957,200	7,125,900	6,721,700
Second „	17,334,600	16,642,600	10,880,800	10,561,900	7,641,300	7,418,600
Total for year	31,810,200	30,676,300	21,167,600	20,519,100	14,767,200	14,140,300
Increase first six months	441,900 = 3·1 per cnt.		329,600 = 3·3 per cnt.		404,200 = 6·0 per cnt.	
Increase second six months	692,000 = 4·2 „		318,900 = 3·0 „		222,700 = 3·0 „	
Total increase for year	1,133,900 = 3·7 per cnt.		648,500 = 3·2 per cnt.		626,900 = 4·4 per cnt.	

"Such a growth as is here shown in the merchandise and mineral traffic, notwithstanding the interruption to trade caused by the engineers' strike, points conclusively to a healthy elasticity in business generally, although in certain branches of industry, such, for instance, as the woollen and worsted trades, the year was undoubtedly one of serious depression. The same conclusion is also to be drawn from the fact that last year our production of pig-iron was the largest on record, amounting to 8,900,000 tons,

or 340,000 tons more than in 1896, and that our production of coal also overtopped that of any other year, being estimated at 200,000,000 tons, as compared with 195,500,000 tons in 1896, and 189,500,000 tons in 1895. Then there are the returns of the London and Provincial Bankers' clearing houses, which show the following movements in 1897 as compared with the previous years :—

	1897.	1896.	Increase or Decrease.	
			Amount.	Per Cent.
	£	£	£	
London Clearing House (exclusive of Stock Exchange and Consols pay day)	6,015,989,000	6,031,613,000	−15,624,000	0·26
Manchester	193,005,000	193,573,000	− 568,000	0·29
Liverpool	121,468,000	121,031,000	+ 437,000	0·36
Birmingham	58,123,000	50,139,000	+ 7,984,000	15·92
Newcastle	60,707,000	55,067,000	+ 5,640,000	10·24
Bristol	25,746,000	23,716,000	+ 2,030,000	8·56

"As an indication of the condition of trade the provincial returns are more to be depended upon than those of the London clearing house, which are influenced more largely by finance transactions. And with the one exception of Manchester, all the provincial clearings show a more or less considerable increase over 1896. For that augmentation an extension of banking facilities no doubt partly accounts. Of late years large additions have been made to the number of branch banks, and in that way doubtless the use of cheques has been increased. Still, making due allowance for this, the clearing house returns support and fortify the other evidence that has been adduced of a distinct expansion of the volume of business in 1897, and as it has been shown that there was little growth in the foreign trade, the conclusion is that it was in the home trade that this expansion took place.

"That trade was, on the whole, better in 1897 than in 1896 is shown also by the statistics issued by the Labour Department of the Board of Trade. Owing to the engineers' dispute, there were during the closing months of the year a larger number of workmen unemployed than during the like period of 1896, but prior to that the state of employment had shown a pretty steady improvement. And taking, perhaps the best test of all, the movement in wages, we get from the report of the Labour Department the following statement of changes in rates of wages, of which it received intimation in 1897 and each of the two previous years :—

	1897.	1896.	1895.
Number of separate individuals affected — By increases	538,200	382,200	79,900
Number of separate individuals affected — „ decreases	14,500	167,400	351,990
Computed net amount of increase or decrease per week	+ 28,800*l.*	+ 26,600*l.*	− 23,200*l.*
Average increase or decrease per head per week	+ 1*s.*	+ 10½*d.*	− 1*s.* 3½*d.*

"The number of persons who secured a rise was thus considerably greater last year than in 1896, and the rise was more substantial, while the number of persons who had to submit to a reduction of wages was very much smaller. And these figures do not show the full extent of the improvement. They do not, we are told, include "agricultural labourers, sailors, and firemen, or railway servants, which for various reasons are not treated statistically in the same way as other industries;" but it is added, "such returns as have been obtained by the Department with regard to these industries, show that they all shared to a greater or less extent in the rise of wages which marked the year." Now wages are, broadly speaking, regulated by the state of employment, and the fact that there was this general rise speaks of increased industrial activity, which would have been still more pronounced but for the deplorable dispute in the engineering trade. That dispute is also accountable in some measure for a slackening in the rate of the expansion of the revenue, which was very marked during the first three-quarters of the year; but taking the year as a whole, that our working people fared better in it than they did in 1896 would appear from the increase in the consumption of dutiable commodities shown in the following statement:—

Quantities Retained for Home Consumption.

		1897.	1896.	1895.
Tea	lbs.	231,400,000	227,786,000	221,800,000
Cocoa	,,	27,852,000	24,523,000	24,485,000
Coffee	cwts.	248,000	248,000	250,000
Tobacco	lbs.	71,637,000	69,593,000	66,369,000
Wines	galls.	15,853,000	15,861,000	14,636,000
Spirits, home	proof galls.	32,657,000	31,900,000	30,830,000
,, foreign	galls.	8,347,000	8,218,000	8,253,000
Beer	barrels	34,756,000	33,865,000	32,226,000

"Some of the improvement in our home trade in 1897 may be traced to a recovery in our agricultural industry, which benefited naturally by the higher prices ruling for wheat, and in a less degree for barley and oats as well. The yield of the wheat crop was less both in amount and in the average per acre than in 1896, and so was that of barley, but whereas in 1896 the average price of English wheat was 26*s.* 2*d.* and that of barley 22*s.* 11*d.*, last year the averages were 30*s.* 2*d.* and 23*s.* 6*d.* respectively. Of oats, the yield was larger than in 1896, and prices also were better, the average being 16*s.* 11*d.*, as compared with 14*s.* 9*d.* And not only were the prices of all the home grown cereals higher on the average, they were also better sustained than in 1896. There was not a similar rise in cattle or dairy products, but taken altogether, 1897 was to our farmers a much more profitable year than they had experienced for a long time previously. What they gained from the higher prices of food products, of course, con-

sumers lost, but that loss was mitigated, if not offset, by the lower prices of tea, sugar, coffee, &c., so that it may be doubted whether the cost of living has been sensibly increased, while the agricultural community, with more money to spend, have been in a position to give some stimulus to other industries.

Gazette Average Price of Wheat (per Imperial Quarter) in United Kingdom immediately after Harvest, 1891-97, *and Total Average Gazette Price of Calendar Years.*

Periods.	1897.	1896.	1895.	1894.	1893.	1892.	1891.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
After harvest	33 7	28 1	23 1	24 1	25 11	29 4	40 11
Calendar year average	30 2	26 2	23 1	22 10	26 4	30 3	37 –

Comparative Gazette Prices of Grain.

Week.	Wheat.			Barley.			Oats.		
	1897.	1896.	1895.	1897.	1896.	1895.	1897.	1896.	1895.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
July 31	28 10	23 8	24 2	17 10	19 7	18 2	19 –	14 10	15 9
Aug. 7	29 5	23 6	24 3	17 9	19 5	20 –	18 11	14 9	16 5
14	29 8	22 11	24 6	19 –	21 1	19 3	17 4	14 6	13 1
21	30 4	22 4	24 5	19 2	21 11	20 8	17 2	14 3	15 7
28	31 8	22 5	23 10	22 5	21 10	23 5	17 1	13 7	14 5
Sept. 4	33 7	23 1	23 1	25 11	21 11	23 4	17 –	13 11	14 4
11	33 1	23 9	22 10	27 4	23 4	23 11	17 3	14 1	13 3
18	33 10	24 –	22 7	28 11	24 8	24 2	17 –	14 6	13 9
25	33 11	24 4	23 –	29 7	26 3	24 8	16 8	14 1	13 5
Oct. 2	33 4	25 2	23 6	29 10	28 7	25 1	16 4	14 9	13 7
9	32 1	26 7	24 3	28 9	29 5	25 7	16 –	15 3	13 4
16	31 10	27 10	24 11	28 3	29 7	25 8	16 1	15 9	13 –
23	32 2	28 11	25 5	27 5	28 6	25 4	16 2	16 –	13 –
30	32 10	30 9	25 11	27 5	28 3	25 6	16 –	17 3	13 10
Nov. 6	33 5	31 6	26 4	26 10	27 5	25 4	16 5	17 6	14 4
13	34 –	31 9	26 1	26 3	27 3	25 1	16 3	17 7	14 4
20	33 11	32 11	25 7	26 2	26 8	25 1	16 5	17 7	14 3
27	33 8	33 4	25 2	25 9	26 9	24 7	16 8	17 7	14 –
Dec. 4	33 9	32 8	24 10	25 10	26 2	24 5	16 9	17 –	14 1
11	33 9	32 2	24 9	26 –	25 4	23 11	16 6	16 8	13 11
18	34 1	31 3	25 1	26 4	24 10	23 8	17 –	16 7	13 11
25	34 4	30 9	25 –	26 11	24 1	23 11	17 –	16 1	13 10

"Notwithstanding the rise in cereals, the general level of prices was lower at the end of 1897 than it was at the beginning. The movement as registered by our index number is shown in the following statement, which gives the record quarter by quarter in each of the past two years and at the beginning of several previous years: —

	'Index Number,' representing the Combined Prices of Twenty-two Leading Commodities.
1st January, 1898.....	1890
„ October '97.....	1896
„ July, '97.....	1885
„ April, '97.....	1429
„ January, '97.....	1950
„ October, '96.....	1958
„ July, '96.....	1947
1st April, 1896.....	1983
„ January, '96.....	1999
„ „ '95.....	1923
„ „ '94.....	2082
„ „ '93.....	2121
„ „ '92.....	2133

And the evidence of the index number as to a lower average level of prices having been reached is borne out by the analysis of our foreign trade, in Appendix A, which shows that on the average the prices of our imports were 0·12 per cent. lower than in 1896, and those of our exports 1·11 per cent. lower, that fall comparing with the movement in previous years thus:—

Prices of Imports and Exports. Average Rise or Fall as compared with previous Years.

	Imports Retained for Home Consumption.	Exports of Home Produce.	Imports and Exports.
	Per cnt.	Per cnt.	Per cnt.
1897.....	− 0·12	− 1·11	− 0·51
'96.....	+ 1·85	+ 1·24	+ 1·63
'95.....	− 3·54	− 3·48	− 3·52
'94.....	− 7·91	− 4·27	− 6·54
'93.....	− 2·26	− 1·71	− 2·05
'92.....	− 4·17	− 4·91	− 4·46
'91.....	+ 0·50	− 0·93	− 0·08

"The fall in average prices was, it will be seen, much greater proportionately in the exports than in the imports, and the net result was that while we paid for our total imports retained for home consumption about 1,180,000*l.* less than they would have cost at the average prices of 1896, we got about 2,700,000*l.* less for our exports than they would have realised at the prices of the previous year. In the imports an increase of about 4,800,000*l.* in the cost of our imports of cereals due to the higher prices we had to pay for them was offset by a saving of about 5,000,000*l.* in our purchases of the raw materials for our textile industries, mainly cotton and wool, through our being able to buy them more cheaply; while in the exports the lower prices we obtained for our shipments of yarns and textile fabrics represented a loss in aggregate value, as compared with 1896, of 2,800,000*l.*

"As it had been predicted would inevitably be the case, the attempt made by Mr. Wolcott and the other United States envoys to bring about an international bimetallic agreement broke down whenever the question of the ratio to be established between gold and silver came to be fairly tackled. It is only just to our bi-

metallists to say that they always had a premonition of this, and nothing would induce them to state what ratio they were prepared to recommend. Mr. Wolcott and his colleagues, however, went boldly for the ratio of $15\frac{1}{2}$ to 1. They demanded, moreover, not only that the Indian mints should be opened to the free coinage of silver, but also that our mint should freely coin rupees and British dollars, which should be current here, that the legal tender of silver here should be increased to 10*l.*, that our Government should bind itself to purchase 10,000,000*l.* of silver annually, and that the Bank of England should hold in silver one-fifth of the stock of bullion in its issue department. Very weakly the Bank of England consented to the last of those conditions, but the only one of the others which was really discussed was that which stipulated for the opening of the Indian mints. And when that was submitted to the Indian Government it was promptly rejected, mainly on the ground that the proposed ratio of $15\frac{1}{2}$ to 1 was one which it would be impossible to maintain. In this decision Mr. Wolcott himself subsequently concurred, as in a statement made to the Senate, he admitted that an international agreement on such a basis was impracticable, and suggested that some higher ratio, say 20 to 1, should be proposed. But as to such a ratio France would not consent, and as it would not be accepted by the silverites of the States, it may be taken for granted that no further action in the direction of international bimetallism will be attempted. There can be no doubt that in rejecting Mr. Wolcott's proposals the Indian Government acted wisely, but at the same time it must be admitted that the currency policy upon which they have embarked, and of which the closing of the mints to silver with the object of imparting to the rupee a scarcity value is the cardinal principle, has not thus far achieved more than a partial success, and that if the effort to substitute a gold for a silver standard in India is to be persevered in, the action already taken will have to be supplemented by further measures.

"As to the trade outlook for the current year we cannot venture to say much. That the engineers' strike has been brought to an end, and that work has been resumed under conditions that will admit of a free use being made of the labour saving machinery which in the United States and elsewhere has conduced so much to the lowering of the cost of production, is a great matter. It may be hoped also that this year the world will not be so dependent upon the United States for its wheat supply as it was last, and that with better harvests other nations will be able to buy more of the commodities they need and with which we are able to supply them. In India, although the plague continues, and trade must consequently be hampered by quarantine and other sanitary precautions, there is no longer the famine to be reckoned with. And while not attaching any importance to the quantitative theory of money, as propounded by bimetallists, the very large increase that is taking place in the production of gold—a production which is estimated to have amounted last year to 48,000,000*l.*, as compared with 40,600,000*l.* in 1896, and which will probably show a still greater rate of expansion in 1898—should stimulate trade by

swelling the demand for the commodities for which the gold is exchanged. In all these respects the prospect is favourable, but at the same time there is the possibility that it may become clouded over by political complications, for no one can say how affairs in the Far East may develop, and in other directions there are strained international relations, which will require very delicate handling if they are to be peacefully adjusted.

"In the money market the tendency of rates during the earlier part of 1897 was steadily downwards. The year opened with the bank rate at 4 per cent., but three weeks later it was reduced to 3½ per cent. At the beginning of February a further reduction to 3 per cent. was made, and that figure maintained until the first week in April, when another step downward to 2½ per cent. was taken, that being followed a month later by a reduction to 2 per cent. There the rate remained until the latter part of September, when there was an advance to 2½ per cent., and as, in spite of that, gold continued to be taken for export, it was further raised on October 13th to 3 per cent., at which it was maintained until the close of the year. Nor did the Bank content itself merely with raising its rate. It also borrowed largely from the market, and thus so reduced the outside supplies of money as to make its rate really effective. From the latter end of October to the close of the year the market rate for best three months' paper was hardly ever more than ⅛ per cent. below the official rate, and the way in which the Bank thus asserted and maintained a close control over the market has been one of the chief financial features of the year. In view of it, we shall probably hear no more of the foolish talk about the decrepitude and decadence of the Bank, in which a few hypercritical persons indulged not so very long ago, but be that as it may, the action of the Bank proved profitable both to itself and to bankers generally. It brought to the Bank a considerable amount of business it would not have got had outside rates been suffered to fall, while owing to the way in which the market rates were sustained, bankers were enabled to earn a fuller margin of profit. To what extent they benefited in this way will be seen from the following statement:—

	1897.	1896.	1895.	1894.
Changes in bank rate	six	three	none	two
	Per cnt.	Per cnt.	Per cnt.	Per cnt.
Highest bank rate	4	4	2	3
Lowest ,, ...	2	2	2	2
Average market rate of discount, best three months' bills	£ s. d.	£ s. d.	s. d.	s. d.
	1 15 10	1 8 7	15 11	19 3
Average allowance on deposits	1 1 10	– 19 6	10 –	16 5
Margin of profit	– 14 –	– 9 1	5 11	2 10

And if the latter half of the year only be taken, the profit margin was over 22*s.* as compared with 12*s.* in the corresponding period

of 1896. Of course it cannot be contended that the Bank is justified in seeking to screw up rates unnecessarily. But its action last year was justified by the fact that there was a continental demand for gold sufficient to absorb all the bullion that came into the market, and that there was the possibility also that gold might be taken hence for the United States. How rates in other European markets moved during the year is shown in the following table :—

European Rates of Discount per Cent. per Annum, 1897.

Cities.	Beginning of Months of 1897.												
	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Avge.
London.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
Bank rate	4	3½	3	3	2½	2½	2	2	2	2½	3	3	2·63
Open market	3	2	1⅝	1¼	1	1 5/16	1 3/16	1 3/16	2	2	2 1 3/16	2⅞	1·79
Paris.													
Bank rate	2	2	2	2	2	2	2	2	2	2	2	2	2
Open market	2	1 15/16	1¾	1¾	1⅞	1¾	1⅞	1⅞	1¾	1⅞	1⅞	2	1·81
Vienna.													
Bank rate	4	4	4	4	4	4	4	4	4	4	4	4	4
Open market	4	3⅝	3⅝	3⅞	3¾	3¼	3⅜	3¼	3⅞	4	4	3⅞	3·68
Berlin.													
Bank rate	5	4	3½	3½	3	3	3	3	3	4	5	5	3·80
Open market	4	2½	2¾	2¾	2½	2¼	2½	2⅜	2¼	3¾	4	4½	3·09
Frankfort.													
Bank rate	5	4	3½	3½	3	3	3	3	3	4	5	5	3·80
Open market	4	2⅝	2⅞	3⅛	2½	2⅝	2⅜	2½	3	3⅞	4⅛	4⅜	3·08
Amsterdam.													
Bank rate	3½	3½	3½	3½	3	3	3	3	3	3	3	3	3·14
Open market	2⅞	2⅝	2¼	2	2¾	2	2¼	2	2½	2¾	3	2½	2·42
Brussels.													
Bank rate	3	3	3	3	3	3	3	3	3	3	3	3	3
Open market	2¼	2¼	2¼	2	2	2	2	2	2	2	2	2	2·06
Hamburg.													
Bank rate	5	4	3½	3½	3	3	3	3	3	4	5	5	3·80
Open market	4	2½	2⅞	3	2½	2½	2½	2⅜	2¾	3¾	4	4¼	3·13
St. Petersburg													
Bank rate	6	6	6	6	6	6	6	6	6	6	6	6	6
Open market	5¾	5¾	5¾	5½	5¾	5¾	5¾	4½	4¾	5	5	5	5·35

"With regard to the silver market in 1879, Messrs. Pixley and Abell report as follows:—Against an extreme variation in price of 1 1/16*d.* in 1896, we had in 1897 a range of 6 1/16*d.* per ounce standard. The price at the commencement of the year proved to be the best, and, as the months passed by, gradually lower prices became current. The lowest point touched was 23¾*d.* in August, and again later on in September. India bought considerably in excess of the figures for 1896, and about 5¾ millions were shipped there, against rather under 5 millions the year before. With Japan entirely giving up the silver yen and adopting a gold standard, many

speculators were induced to sell 'bear' for long delivery. The speculation became a predominant feature at times, and hurried covering of sales led to sharp rallied in the autumn. Those who were short were caused considerable uneasiness by the further endeavour of the States to promote joint action between America, France, and Great Britain to rehabilitate silver. Some colour was given to the report that the British Government was in favour of some such steps being taken, by the publication of a letter from the Bank of England stating that the bank would not be averse to holding one-fifth of its metallic reserve in silver, conditional on free coinage of silver by France and America. It was soon recognised that such conditions were practically impossible, and shortly afterwards came the announcement that the Indian mints would not be re-opened to the free coinage of silver. The weakness then continued, but renewed inquiry for the east, together with the cessation of the council sales, caused the price to be decidedly higher towards the end of the year. New York was generally a steady seller, but last advices point to a falling off in the output. China wanted rather less than in 1896, while so small an amount has not been sent to the Straits since 1888. Rather more Mexican dollars came on the market than during the year immediately preceding, but still the supply can only be considered small. During most of the time Mexicans varied from about $\frac{7}{8}d.$ to $\frac{1}{2}d.$ under bar silver. In August, however, with strong eastern demand, they were actually $\frac{1}{4}d.$ better than bar silver quotation.

Monthly Fluctuations in Price of Bar Silver.

	1897.		1896.		1895.		1894.		1893.	
	d.	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*
January	$29\frac{13}{16}$	$29\frac{11}{16}$	$30\frac{7}{8}$	$30\frac{1}{2}$	$27\frac{7}{16}$	$27\frac{3}{16}$	$31\frac{3}{4}$	$30\frac{1}{2}$	$38\frac{9}{16}$	$38\frac{1}{8}$
February.....	$29\frac{3}{4}$	$29\frac{11}{16}$	$31\frac{9}{16}$	$30\frac{3}{4}$	$27\frac{11}{16}$	$27\frac{1}{4}$	$30\frac{11}{16}$	$27\frac{1}{2}$	$38\frac{1}{2}$	$38\frac{1}{4}$
March	$29\frac{5}{8}$	$28\frac{5}{16}$	$31\frac{9}{16}$	$31\frac{1}{8}$	$29\frac{3}{4}$	$27\frac{5}{8}$	$27\frac{7}{8}$	27	$38\frac{3}{8}$	$37\frac{9}{16}$
April	$28\frac{1}{2}$	$28\frac{3}{16}$	$31\frac{3}{16}$	$30\frac{13}{16}$	$30\frac{7}{8}$	$29\frac{7}{8}$	$29\frac{3}{8}$	$29\frac{1}{8}$	$38\frac{5}{16}$	38
May	$28\frac{3}{16}$	$27\frac{1}{2}$	$31\frac{1}{4}$	$30\frac{15}{16}$	$30\frac{7}{8}$	$30\frac{3}{16}$	$29\frac{1}{4}$	$28\frac{1}{16}$	$38\frac{9}{16}$	$37\frac{5}{8}$
June	$27\frac{3}{4}$	$27\frac{1}{2}$	$31\frac{9}{16}$	$31\frac{3}{16}$	$30\frac{11}{16}$	$30\frac{3}{16}$	$28\frac{15}{16}$	$28\frac{5}{16}$	$38\frac{1}{4}$	$30\frac{1}{2}$
July.....	$27\frac{11}{16}$	$26\frac{3}{8}$	$31\frac{1}{2}$	$31\frac{3}{8}$	$30\frac{5}{8}$	$30\frac{3}{16}$	$28\frac{15}{16}$	$28\frac{7}{8}$	$34\frac{3}{4}$	$32\frac{1}{8}$
August	$26\frac{1}{2}$	$23\frac{3}{4}$	$31\frac{7}{8}$	$30\frac{3}{8}$	$30\frac{9}{16}$	$30\frac{1}{4}$	$30\frac{1}{2}$	$28\frac{11}{16}$	$34\frac{7}{8}$	$32\frac{11}{16}$
September	$27\frac{1}{4}$	$23\frac{3}{4}$	$30\frac{11}{16}$	30	$30\frac{9}{16}$	$30\frac{7}{16}$	$30\frac{1}{4}$	$29\frac{3}{16}$	$34\frac{1}{2}$	$33\frac{7}{8}$
October	$27\frac{1}{2}$	$25\frac{9}{16}$	$30\frac{5}{16}$	$29\frac{3}{4}$	$31\frac{3}{8}$	$30\frac{3}{8}$	$29\frac{9}{16}$	$28\frac{15}{16}$	$34\frac{1}{2}$	$31\frac{1}{2}$
November	$27\frac{1}{2}$	$26\frac{3}{8}$	$30\frac{3}{16}$	$29\frac{3}{4}$	31	$30\frac{5}{8}$	$29\frac{5}{16}$	$28\frac{3}{8}$	$32\frac{3}{4}$	$31\frac{1}{2}$
December	$27\frac{3}{4}$	$25\frac{13}{16}$	30	$29\frac{13}{16}$	$30\frac{11}{16}$	30	$28\frac{1}{2}$	$27\frac{9}{16}$	$32\frac{5}{16}$	$31\frac{3}{4}$
Yearly avge.	$27\frac{9}{16}$		$30\frac{3}{4}$		$29\frac{7}{8}$		$28\frac{15}{16}$		$35\frac{5}{8}$	
Highest price	$29\frac{13}{16}$		$31\frac{9}{16}$		$31\frac{3}{8}$		$31\frac{3}{4}$		$38\frac{3}{4}$	
Lowest ,,	$23\frac{3}{4}$		$29\frac{3}{4}$		$27\frac{3}{16}$		27		$30\frac{1}{8}$	

"In the stock markets during 1897 the speculating public were more or less conspicuous by their absence, but there was a steady volume of investment business, and in most departments a higher level of prices was attained. A very good idea of the general movement may be gathered from the following table, for which we are indebted to the *Bankers' Magazine*, in which the values of 325

representative securities of various classes at the end of 1897 and 1896 are compared:—

[000's omitted.]

Nominal Amount (Par Value).	Department, containing	Market Values end of December,		Increase or Decrease.	
		1897.	1896.	Amount.	Per Cent.
£		£	£	£	
800,194,	14 British and Indian funds	901,986,	881,188,	+ 20,798,	2·4
36,379,	8 Corporation (U.K.) stocks	44,046,	43,980,	+ 66,	0·1
49,417,	11 Colonial Government stocks	54,061,	53,355,	+ 706,	1·3
29,823,	5 Ditto inscribed ditto	33,011,	32,321,	+ 690,	2·1
928,539,	30 Foreign Government ditto	826,579,	811,794,	+ 14,785,	1·8
213,007,	19 British Railway Ordinary	342,962,	330,466,	+ 12,496,	3·8
171,118,	14 Ditto Debenture Ordinary	217,891,	219,310,	− 1,419,	0·7
128,803,	13 Ditto Preference Ordinary	199,864,	201,992,	− 2,128,	1.05
47,010,	7 Indian Railways Ordinary	74,564,	73,535,	+ 1,029,	1·4
56,014,	8 Railways in British possessions Ordinary	27,196,	18,822,	+ 8,374,	44·5
89,000,	10 American railway shares	68,132,	59,061,	+ 9,071,	15·4
59,545,	12 Ditto bonds (gold)	43,802,	43,101,	+ 701,	1·6
7,605,	5 Ditto bonds (sterling)	7,659,	7,959,	− 300,	3·8
19,516,	12 Foreign railways	15,956,	16,007,	− 51,	0·3
84,216,	9 Ditto obligations	64,300,	61,693,	+ 2,607,	4·2
	30 Bank shares—				
	10 British bank shares	44,926,	42,426,	+ 2,500,	5·9
	4 Australasian bank shares	8,016,	7,624,	+ 392,	5·1
35,190,	6 Other colonial bank shares	6,688,	6,322,	+ 366,	5·7
	10 Semi-foreign bank shares	15,129,	13,924,	+ 1,205,	8·7
7,038,	8 Corporation stocks (colonial and foreign)	7,436,	7,470,	− 34,	0·5
6,167,	8 Financial, land	7,910,	6,711,	+ 1,199,	17·9
10,842,	4 Gas	30,946,	31,192,	− 246,	0·8
3,956,	14 Insurance	24,399,	24,532,	− 133,	0·5
6,055,	7 Coal, iron, and steel	7,612,	7,946,	− 334,	4·2
20,716,	6 Canal and dock	60,894,	62,198,	− 1,304,	2·1
4,529,	8 Breweries	13,590,	13,234,	+ 356,	2·7
9,944,	15 Commercial, industrial, &c.	29,889,	30,260,	− 371,	1·2
8,810,	10 Mines (chiefly South African)	40,328,	36,327,	+ 4,001,	11·0
4,966,	8 Shipping	6,346,	5,936,	+ 410,	6·9
17,914,	9 Telegraph and telephone	22,563,	21,721,	+ 842,	3·9
4,066,	11 Tram and omnibus	5,155,	4,775,	+ 380,	7·9
8,553,	10 Waterworks	22,096,	21,115,	+ 981,	4·6
2,868,932,	325 Totals	3,275,932,	3,198,297,	+ 77,635,	2·4

"Consols during the year touched the record price of 114 for money, but there was a subsequent decline to 112½, which is 2 per cent. above the closing price of 1896. Indian funds, on the other hand, lost ground a little during the year, which is not surprising, seeing the serious financial and other troubles the Government had to contend against; but Colonial Government bonds were in better demand, at slightly higher prices. Home corporation stocks had previously reached such high prices that the demand for them slackened considerably last year, and though they gained a little

on balance, there is now a disposition on the part of investors to regard the level of quotations to which they have attained as rather too high.

"Home railway ordinary stocks continued practically throughout the year the upward course they had followed during 1896, the advance being most conspicuous in the South Western issues and Metropolitan consolidated. A prominent exception to the general improvement is, however, the Great Central deferred stock, which at the close of the year stood nearly 20 per cent. lower than at the beginning, and declines are also recorded in Brighton 'A' and North British deferred stocks. The market derived its strength mainly from the steady increase in receipts shown by the weekly traffic returns, and the consequent expectation of higher dividends. And the dividends paid by the chief companies for the first half of the year were, on the average, slightly higher than in the corresponding period of 1896. The second half of the year, however, did not turn out so well. In it also there was a considerable increase in gross receipts, but that was more than offset by increased working expenses, by augmented fixed charges, and by an increase in the amount of the ordinary capital on which dividends had to be paid, and the net result was that the dividends paid by the fifteen chief English companies, which for the second half of 1896 averaged 6⅜ per cent., declined to an average of 6¼ per cent.

"The chief influences affecting foreign government securities during the year was the war between Turkey and Greece, the resumption of the payment of full interest on the Argentine National Debt a year before the date fixed by the Rothschild agreement, and the political disturbances which broke out from time to time in other of the South American States. The Turkish groups of securities were naturally strengthened by the result of the war, and Greek bonds also improved on the belief, since justified by the fact, that an international financial control would be established. Although the financial position of Spain has been going from bad to worse under the strain of the Cuban war expenditure, Spanish bonds, instead of declining, have reached higher quotations, while other noteworthy movements were an advance in Argentines, and a more or less heavy fall in the securities of the South American States.

"American railroad securities were pretty largely dealt in, especially after the passing of the Dingley Act, and later on when it was seen that the abundant wheat crop of the United States, together with the shortage elsewhere, would bring much traffic to the railroads. A substantial advance in prices has to be recorded, but British investors have been more disposed to realise their holdings than to increase them, and the year witnessed the return to the States of very large amounts of its railroad securities that had formerly been held here. What may be almost designated as a boom in Canadian Pacific and Grand Trunk securities was a feature of the year, the inspiring cause being a very large increase in the gross and a still larger increase in the net earnings, added to the belief that both companies will benefit appreciably from the

development of the gold mining industries in British Columbia and the Klondyke district.

"South African and Australian mining shares remained under a cloud throughout the whole of the year, while in the miscellaneous departments the chief feature was the very much greater attention paid to the shares of home industrial undertakings.

"The amount of new capital offered for public subscription during 1897 was very large, the total amount just overtopping the figure for 1896, which was the largest for any year since 1889. The following shows, quarter by quarter, the amount applied for since the commencement of 1893:—

New Capital Applications. [000's omitted.]

	1897.	1896.	1895.	1894.	1893.
	£	£	£	£	£
First quarter	28,116,	30,925,	28,479,	11,358,	7,770,
Second ,, ...	47,777,	48,569,	23,710,	19,719,	18,179,
Third ,, ...	31,874,	41,287,	32,742,	18,140,	8,951,
Fourth ,, ...	49,522,	32,026,	19,759,	42,618,	14,241,
	157,289,	152,807,	104,690,	91,835,	49,141,

"Classified as nearly as possible according to the objects to which the capital applied for during the year was intended to be devoted, the statement is as follows:—

	Total for Year. £
Foreign Government loans	10,615,300
Indian and colonial Government loans	13,684,700
British municipal and county loans.....	7,651,500
Colonial and foreign corporations	414,800
British railways	7,465,000
Indian and colonial railways	4,378,000
Foreign railways	5,468,000
Mining companies—	
West Australian.....	2,195,000
Other Australian mines.....	543,500
South African.....	2,960,000
Canadian	2,367,000
Other mines	4,904,500
Exploration, land, and financial	7,812,900
Cycles and appliances	7,193,000
Breweries and distilleries	17,950,600
Banking	1,309,000
Insurance	1,229,300
Gas lighting and water	3,304,100
Hotels, theatres, and entertainments	5,016,500
Stores and trading.....	8,999,800
Companies to acquire patents	5,182,400
Mineral water companies	3,716,000
Manufacturing	15,383,200
Motor cars	380,000
Docks, harbours, and shipping.....	1,682,000
Tea plantations	2,326,600
Miscellaneous	13,156,300
	157,289,000

"The sums applied for by foreign governments included a loan of about 5,000,000*l.* for Japan, and one of nearly 4,000,000*l.* by the Danish Government. The latter was partly for conversion purposes, and probably only a very small portion of it was taken up here. Of the loans raised by British possessions about one-third was for India. As regards railways, British undertakings were rather prominent. The most important in their effect on the market were issues of large amounts of preference stock by the Great Northern and North British companies, the latter being in the form of convertible stock, which renders it a greater menace to the prospect of the ordinary than is the case when no option of the kind is conceded.

"The most numerous class of applications were those made for the development of home industrial undertakings. Among this class of promotions breweries and distilleries were an easy first, both as regards number and amount. Some large debenture issues were made by such well known companies as Charrington and Co., Hoare and Co., and Watney and Co., but the formation of new companies was also very active. The effect of the cycle craze lasted well into this year, the capital offered for the acquisition of cycle and accessories manufacturers' businesses amounting to close upon 6,000,000*l.* This constituted the fag-end of the boom, however, most of the undertakings offered being incapable of standing the slightest investigation.

"The following is a statement of the capital applications and calls made in each of the ten years ending 1897:—

	Capital Created and Issued.			Actual Money Calls.		
	In England.	England and Elsewhere.	Total.	In England.	England and Elsewhere.	Total.
	£	£	£	£	£	£
In 1897....	145,612,000	11,677,000	157,289,000	73,947,000	7,747,000	81,694,000
„ '96....	125,964,000	26,713,000	152,677,000	66,111,000	18,281,432	84,393,000
„ '95....	91,694,000	12,996,000	104,690,000	64,645,000	19,855,000	84,500,000
„ '94....	61,191,000	30,644,000	91,835,000	62,666,000	11,556,000	74,222,000
„ '93....	39,181,000	9,959,750	49,141,000	33,751,000	8,202,000	41,953,000
„ '92....	53,197,000	27,940,000	81,137,000	47,212,000	12,045,000	59,262,000
„ '91....	80,239,000	24,356,000	104,595,000	66,810,000	9,234,000	76,044,000
„ '80....	125,898,000	16,667,000	142,565,000	120,717,000	20,290,000	141,007,000
„ '89....	178,930,000	28,107,000	207,037,000	152,012,000	15,791,000	167,804,000
„ '88....	140,758,000	19,497,000	160,255,000	125,864,000	11,388,000	137,252,000

Appendix (A.)—*Volume and Value of our Foreign Trade of* 1897 *Compared with that of* 1896.

"For a number of years past it has been our practice to analyse the annual Trade and Navigation Returns, so as to show to what extent the recorded movements in values have been due to variations in the volume of the year's trade, and how far to alterations in prices. The details of this analysis for the year 1897 will be

found in the numbers of the *Economist* of the 22nd and 29th ult., and we now, as usual, bring together the main figures, in order that the broad results may be more clearly indicated :—

I. *Imports.*

	1897.		1896.
	Value in Trade and Navigation Returns.	Value Calculated at Prices of 1896.	Value in Trade and Navigation Returns.
	£	£	£
Living animals	11,380,000	11,129,000	10,439,000
Articles of food and drink	178,342,000	176,340,000	172,568,000
Tobacco	4,073,000	4,091,000	4,352,000
Metals	21,265,000	20,566,000	20,492,000
Chemicals, dye stuffs, and tanning materials	6,006,000	6,152,000	6,778,000
Oils	7,641,000	7,969,000	8,459,000
Raw materials for textile manufactures	70,364,000	75,300,000	74,757,000
Raw materials for sundry industries.	52,085,000	51,480,000	47,242,000
Manufactured articles	85,038,000	84,585,000	81,380,000
Miscellaneous ,,	14,139,000	13,824,000	14,330,000
Parcel post	1,005,000	982,000	1,012,000
Total imports	451,238,000	452,418,000	441,809,000
Deduct re-exports	59,834,000	60,529,000	56,234,000
Net imports	391,404,000	391,889,000	385,575,000

II. *Exports of British Produce.*

	1897.		1896.
	Value in Trade and Navigation Returns.	Value Calculated at Prices of 1896.	Value in Trade and Navigation Returns.
	£	£	£
Living animals	1,133,000	1,078,000	942,000
Articles of food and drink	12,139,000	11,453,000	11,684,000
Raw materials	20,140,000	19,894,000	17,687,000
Yarn of all kinds	18,292,000	19,255,000	18,952,000
Textile fabrics of all kinds	78,326,000	80,191,000	86,378,000
Metals and machinery	50,770,000	50,070,000	50,563,000
Apparel and articles of personal use	9,878,000	10,005,000	10,474,000
Chemicals and chemical and medicinal preparations	8,675,000	9,009,000	8,243,000
All other articles	32,940,000	34,019,000	33,553,000
Parcel post	2,075,000	2,080,000	1,670,000
Total	234,350,000	237,054,000	240,146,000

Dealing first with the volume of our trade, it is shown in Table I that in 1896 the total value of the imports retained for home consumption was 385,575,000*l.*, and that if we had paid for our

net imports of last year the same average prices as in 1896, they would have cost us 391,889,000*l.* It follows, therefore, that there was last year an increase in the quantity of our net imports equal to the difference between 385,575,000*l.* and 391,889,000*l.* or 1·64 per cent. Then, as to our exports. In 1896 we exported British products to the value of 240,146,000*l.*, while our exports in 1897, if we had obtained for them the same prices as in 1896, would have realised 237,054,000*l.*; and the difference between these two amounts, which works out at a decrease of 3,092,000*l.* or 1·29 per cent., is the measure of the diminution in the quantity of our shipments in 1897. Taking imports and exports together, the volume of our foreign trade last year (exclusive of re-exports) shows, as compared with 1893, an increase of 0·51 per cent., the figures being:—

	£
Actual value of net imports and of exports of British products in 1896	625,721,000
Value of net imports and of exports of British products in 1897, calculated at the prices of 1896	628,943,000
Increase in 1897, due to larger quantities....	3,222,000
	=0·51 per cent.

"Next, as to prices, the actual cost of our imports for home consumption last year was 391,404,000*l.*, whereas if we had paid for them the same average prices as in 1895, they would have cost us 391,889,000*l.* Thus owing to lower prices, there was a decrease in the cost of our imports of 485,000*l.*, or 0·12 per cent.; or, in other words, the prices of the imports were on the average 0·12 per cent. lower in 1897 than in 1896. And the fall in prices is more marked in the exports. Our total exports of British products in 1897 are valued at 234,350,000*l.* If, however, their value had been calculated at the same average prices as in 1896, it would have amounted to 237,054,000*l.*, and there was thus a decrease in value due to lower prices of 2,704,000*l.*, or 1·11 per cent. In imports and exports combined the decrease in value owing to lower prices amounted to 3,189,000*l.*, or 0·51 per cent., the calculation working out thus:—

	£
Value of net imports and of exports of British products for 1897, calculated at prices of 1896	628,943,000
Actual value in Trade and Navigation Returns..	625,754,000
Decrease due to lower prices in 1897	3,189,000
	=0·51 per cent.

(B.)—*Railway Traffic Receipts in* 1897 *and* 1896.

"Subjoined is an analysis of the traffic receipts of fifteen of the principal English railways during the past two years:—

First Half-Year.

[00's omitted.]

	Passengers, Parcels, and Mails.		Merchandise.		Minerals.		Live Stock.	
	1897.	1896.	1897.	1896.	1897.	1896.	1897.	1896.
	£	£	£	£	£	£	£	£
London and N. Western	2,439,3	2,381,7	2,101,3	2,071,1	1,235,4	1,166,9	92 3	89,9
Great Western	2,081,6	2,008,0	1,205,2	1,209,8	1,256,1	1,170,5	62,6	67,4
Midland	1,462,3	1,404,6	1,889,9	1,787,1	1,273,6	1,195,6	44,5	42,5
North Eastern	1,081,6	1,061,7	1,249,4	1,184,2	1,284,7	1,223,1	52,6	48,5
Lancashire & Yorkshire.	977,4	971,3	850,0	844,7	499,0	492,6	19,2	19,7
Great Northern	854,7	830,6	757,6	722,7	393,0	371,8	26,1	25,8
,, Eastern	1,130,9	1,083,8	651,9	615,2	236,1	217,5	41,8	40,4
London and S. Western.	1,280,5	1,219,2	403,9	386,7	160,9	150,7	17,7	17,5
South Eastern	785,3	759,3	196,6	188,4	92,2	85,2	5,8	6,1
London, Brighton	941,7	919,6	196,6	193,3	132,7	122,9	5,2	5,4
Great Central	288,4	284,6	468,2	473,7	355,4	337,9	9,9	10,2
London, Chatham, and Dover	517,6	497,5	84,3	81,0	58,4	53,1	2,8	2,6
North Staffordshire	119,1	117,3	123,9	121,2	115,6	106,5	2,0	2,0
Metropolitan	348,2	332,9	25,4	19,1	14,4	11,4	4	3
North London	167,0	161,6	82,6	59,0	17,5	16,0	8	7
Total	14,475,6	14,033,7	10,286,8	9,957,2	7,125,9	6,721,7	383,7	379,0
	+ £441,9		+ £329,6		+ £404,–		+ £4·7	

Second Half-Year.

[00's omitted.]

London and N. Western	2,945,1	2,843,8	2,173,5	2,147,1	1,331,4	1,274,2	127,0	122,9
Great Western	2,547,2	2,410,2	1,327,0	1,222,9	1,277,4	1,278,5	70,6	74,3
Midland	1,720,3	1,639,7	1,989,6	1,942,6	1,416,3	1,390,1	44,5	44,9
North Eastern	1,372,4	1,322,5	1,300,6	1,271,8	1,354,3	1,305,6	50,2	49,5
Lancashire & Yorkshire.	1,105,0	1,088,1	884,6	889,0	521,1	512,0	21,2	21,0
Great Northern	1,036,0	989,8	826,4	794,7	545,2	432,9	20,5	19,5
,, Eastern	1,475,3	1,405,3	713,9	688,2	270,7	261,8	32,1	29,7
London and S. Western.	1,471,2	1,402,5	435,0	417,1	168,4	161,8	21,7	22,7
South Eastern	947,1	905,9	220,7	221,9	108,2	92,0	8,4	8,0
London, Brighton	1,108,9	1,075,4	218,1	201,3	149,7	137,3	5,5	5,9
Great Central	335,3	330,3	469,2	456,8	375,3	359,4	7,9	7,9
London, Chatham, and Dover	626,3	604,2	101,8	98,3	64,7	62,0	4,0	3,9
North Staffordshire	131,2	127,9	128,2	124,0	121,6	118,1	2,0	1,9
Metropolitan	346,7	333,1	27,5	22,6	15,8	13,9	4	3
North London	166,6	163,9	64,7	63,6	21,2	19,0	1,1	1,0
Total	17,334,6	16,642,6	10,880,8	10,561,9	7,641,3	7,418,6	417,1	413,4
	+ £692,0		+ £318,9		+ £222,7		+ £3,7	

IV.—*Prices of Commodities in* 1897. By A. Sauerbeck.

The following table shows the course of prices of forty-five commodities during the last twenty years as compared with the standard period of eleven years, 1867-77, which in the aggregate is equivalent to the average of the twenty-five years 1853-77 (see the Society's *Journal*, 1886, pp. 592 and 648, and 1893, pp. 220 and 247):—

Summary of Index Numbers. Groups of Articles, 1867-77 = 100.

	Vegetable Food (Corn, &c.).	Animal Food (Meat, &c.).	Sugar, Coffee, and Tea.	Total Food.	Minerals.	Textiles.	Sundry Materials.	Total Materials.	Grand Total.	Silver.*	Wheat Harvest.†	Average Price of Consols.‡	Average Bank of England Rate.‡
1878	95	101	90	96	74	78	88	81	87	86·4	108	95 3/16	3 3/4
'79	87	94	87	90	73	74	85	78	83	84·2	64	97 1/2	2 7/8
'80	89	101	88	94	79	81	89	84	88	85·9	93	98 3/8	2 3/4
'81	84	101	84	91	77	77	86	80	85	85·0	97	100	3 1/2
'82	84	104	76	89	79	73	85	80	84	84·9	100	100 1/2	4 1/8
1883	82	103	77	89	76	70	84	77	82	83·1	93	101 3/16	3 9/16
'84	71	97	63	79	68	68	81	73	76	83·3	103	101	3
'85	68	88	63	74	66	65	76	70	72	79·9	108	99 1/4	3
'86	65	87	60	72	67	63	69	67	69	74·6	93	100 3/4	3
'87	64	79	67	70	69	65	67	67	68	73·3	110	101 3/4	3 3/16
1888	67	82	65	72	78	64	67	69	70	70·4	96	101	3 3/16
'89	65	86	75	75	75	70	68	70	72	70·2	103	98	3 6/16
'90	65	82	70	73	80	66	69	71	72	78·4	106	96 1/2	4 5/16
'91	75	81	71	77	76	59	69	68	72	74·1	108	95 3/4	3 5/16
'92	65	84	69	73	71	57	67	65	68	65·4	91	96 3/4	2 5/16
1893	59	85	75	72	68	59	68	65	68	58·6	90	98 1/2	3 1/16
'94	55	80	65	66	64	53	64	60	63	47·6	106	101	2 1/16
'95	54	78	62	64	62	52	65	60	62	49·1	91	106	2
'96	53	73	59	62	63	54	63	60	61	50·5	116	111	2 5/16
'97	60	79	52	65	66	51	62	59	62	45·3	100	112 1/4	2 6/16
Average 1888-97	62	81	66	70	70	59	66	65	67	61·0	101	101 3/4	2 9/16
'78-87	79	95	76	84	73	71	81	76	79	82·1	97	99 1/2	3 2/16

* Silver 60·84 per oz. = 100.

† Wheat harvest in the United Kingdom, 1878-83, 28 bushels per acre = 100, from 1884 29 bushels = 100.

‡ Consols and bank rate actual figures, not index numbers; consols 2¾ per cent. from 1889.

The index number for all commodities was 62, against 61 in 1896, or 38 per cent. below the standard period 1867-77, 21½ per cent. below the ten years 1878-87, and 7½ per cent. below the average of the last ten years. As the low figure of 1896 was mainly caused by the unprecedentedly low prices in the aggregate of articles of food, so the number of 1897 was principally affected by the opposite course, higher prices of food, while the average of

all materials was the lowest on record. Amongst the articles of the first class, wheat, barley, oats, potatoes, rice, and all sorts of meat, and particularly pork, were higher; but sugar, coffee, and tea declined, and ruled, on the average, lower than ever before. In the case of materials, there was a moderate improvement for copper, tin, lead, and coals; but all textiles, cotton and wool, flax, hemp, and jute, and a number of sundry materials, viz., tallow, linseed oil, petroleum, nitrate, and indigo, ruled lower. Timber and soda, on the other hand, were higher.

Ten descriptions out of 45 contained in my tables showed records of lowest prices, viz., sugar (two descriptions), flax, Manila hemp, jute, tallow, linseed oil, and nitrate the lowest of the century, and Brazil coffee and indigo the lowest since 1852.

The monthly fluctuations were as follows:—

December, 1889....	73·7	July, 1896....	59·2	July, 1897....	61·7
„ '90....	71·1	December, „	62·0	August, „	63·2
„ '91....	71·4	January, 1897....	62·0	September, „	63·4
„ '92....	67·7	February, „	61·9	October, „	62·7
„ '93....	67·0	March, „	61·9	November, „	62·4
„ '94....	60·1	April, „	61·5	December, „	62·4
February, 1895....	60·0	May, „	61·2	January, 1898....	62·8
December, „	61·2	June, „	61·3	February, „	63·4

Prices declined slightly in the first half of the year, and later on their course was strongly influenced by the rise of wheat and the fall of cotton in the last quarter. The English Gazette price of wheat rose from 27*s.* in June to 34*s.* in December, American wheat from 29*s.* to 39—40*s.*, flour, town made white, from 26½*s.* to 33*s.*, and households from 23½*s.* to 30*s.*, while American cotton declined from 4¼*d.* to 3¼*d.* Of other important changes during the year, I notice the rise of potatoes, owing to a bad crop, the fall of sugar to 8*s.* 3*d.* in July, the lowest price on record, and a recovery to 9*s.* 7*d.* at the end of the year, the decline of good average Santos coffee from 52*s.* in January to 27¼*s.*—29*s.* in November and 32¾*s.* in December, depressing all medium to good sorts, but having only a slight influence on the very finest descriptions.

The index number at the end of 1897 was still a little higher than at the end of the three preceding years.

Taking articles of food and materials separately, the index numbers compare thus:—

	February.	December. 1895.	July.	December, 1896.	May.	September.	December, 1897.
Food	63·8	60·4	60·0	63·9	63·7	67·5	66·5
Materials....	57·0	61·8	58·6	60·6	59·4	60·4	59·4

Articles of food stood at the end of the year still 4 per cent. higher than in December, 1896, and 11 per cent. above the lowest point in July, 1896; while materials were 2 per cent. lower than a year ago, but still 4 per cent. higher than at the lowest period in February, 1895.

The average price of silver was $27\frac{9}{16}d.$ per oz., the lowest on record, against $30\frac{3}{4}d.$ in 1896. It stood at $29\frac{13}{16}d.$ (index number 49·0) at the end of 1896, sold at $29\frac{3}{4}d.$ in January and February, and gradually declined to about $26\frac{1}{2}d.$ in July. In August it suffered a sharp decline, touched $23\frac{3}{4}d.$, the lowest price ever known, but soon recovered and realized on the average about $26\frac{3}{4}d.$ during the last three months, the closing price of the year being $26\frac{5}{8}d.$ per oz. (index number 43·8). In January and February of the present year the tendency was again downward (price on 28th February $25\frac{5}{8}d.$ per oz. = 42·1).

Owing to the introduction of the gold standard in Japan the export to that country was entirely stopped, but there was a good demand for India, and, as in the previous year, silver was strongly favoured by the Russian currency requirements.

*Quarterly Movements of Prices.**

Summary of Index Numbers, 1867-77 = 100.

Years.	Quarters.	Vegetable Food (Corn, &c.).	Animal Food (Meat, &c.).	Sugar, Coffee, and Tea.	Total Food.	Minerals.	Textiles.	Sundry Materials.	Total Materials.	Grand Total.	Silver.†
1889....	IV	66·3	86·0	67·2	73·1	83·9	70·7	68·1	73·2	**73·2**	71·4
'90....	IV	67·4	82·0	71·2	73·6	80·5	62·7	69·5	70·4	**71·7**	79·6
'91....	IV	77·2	80·8	68·7	76·7	73·9	58·6	69·0	67·1	**71·2**	72·1
'92....	IV	60·7	83·6	72·7	71·7	69·5	57·3	67·4	64·9	**67·7**	64·0
'93....	IV	58·6	83·2	70·5	70·2	72·3	58·7	67·2	66·0	**67·8**	52·2
'94....	IV	53·2	78·4	60·8	64·1	62·3	48·2	63·5	58·5	**60·9**	46·6
'95	I	54·2	77·3	61·3	64·2	60·8	46·5	63·1	57·3	**60·3**	46·4
	II	57·9	77·5	60·9	65·8	61·3	49·8	65·5	59·6	**62·2**	50·0
	III	53·7	80·3	61·2	65·1	63·5	54·6	66·1	61·9	**63·2**	50·0
	IV	51·6	74·0	62·2	62·1	63·8	56·8	65·5	62·4	**62·3**	50·5
'96	I	50·4	71·7	62·8	60·8	63·2	55·5	64·5	61·4	**61·1**	51·1
	II	49·2	71·4	61·2	59·9	62·4	53·7	62·8	59·9	**59·9**	51·4
	III	50·5	75·2	56·6	60·9	62·2	53·2	62·1	59·4	**60·1**	50·6
	IV	60·3	74·3	55·2	64·4	65·9	54·1	62·8	60·9	**62·4**	49·1
'97	I	57·5	77·3	55·2	64·3	65·8	52·0	62·5	60·2	**61·9**	48·0
	II	56·1	80·0	52·0	64·0	64·0	51·5	62·3	59·4	**61·3**	45·7
	III	62·1	80·1	51·0	66·4	65·4	51·1	63·2	60·1	**62·8**	41·5
	IV	65·0	78·4	50·3	66·8	66·7	48·8	62·3	59·3	**62·5**	44·7

* The four quarterly figures of each year do not in all cases exactly (in the decimals) agree with the annual averages, as the latter are partly calculated from revised figures. See also the Society's *Journal*, 1893, p. 221, and 1895, p. 144.

† Silver 60·84*d.* per oz. = 100.

The quarterly numbers show the average of three-monthly figures, and by thus eliminating minor fluctuations they give a more reliable comparison of the gradual changes of the various groups of commodities. They illustrate the decline of vegetable food in the first half of the year and the upward movement in the second half principally in consequence of the rise of wheat, further, the falling tendency of coffee and textiles, and a fairly steady

market for minerals and sundry materials. Animal food was throughout the year on a higher level than in the previous year.

The following figures show in each case the average index numbers of all the forty-five commodities for ten years (see the dotted line in the diagram of the *Journal*, 1886); they give the best picture of the gradual movement of the *average* prices of *whole periods*, as the ordinary fluctuations are still further obliterated:—

1818-27 = 111	1877-86 = 82	1883-92 = 72
'28-37 = 93	'78-87 = 79	'84-93 = 71
'38-47 = 93	'79-88 = 78	'85-94 = 69
'48-57 = 89	'80-89 = 76	'86-95 = 68
'58-67 = 99	'81-90 = 75	'87-96 = 68
'68-77 = 100	'82-91 = 74	'88-97 = 67

With regard to the general state of trade in Europe during the past year opinions appear to differ. The working classes in England were better off and secured an increase in wages, to be accompanied by increased consumption of dutiable articles. The railway traffics show that more goods were carried, but this in itself does not prove that trade was more prosperous. Indeed, I believe that there is plenty of evidence that the year's result was on the whole less favourable than that of 1896 and the second half of 1895. The famine in India and the outbreak of plague seriously impeded the trade with this great dependency, and there was also a considerable reduction in the exports to the Far East, to Australia and South America. In fact the exports to South America have been smaller than at any time during the last ten years. The change in the tariff of the United States stimulated exports there during the first half year, but caused a complete stoppage of demand later on. The textile industry in nearly all branches, but particularly in wool and cotton, was very depressed, and though the good demand for iron and other metals continued throughout the year, the engineering trade in this country was greatly hampered by the protracted strike. In the United States, on the other hand, things were much better. Prices of wheat were already good last winter, and in view of a protective tariff there was considerable speculation in raw materials and manufactures, to be followed in the latter part of the year by the fortunate coincidence of a good harvest and high prices of wheat. The exports show an enormous excess over imports, viz., 383,000,000 dollars, unprecedented in the commercial history of any country, and large amounts of American securities have been bought in Europe and returned to the States; but this continued favourable trade balance must soon increase the demand for foreign goods again, notwithstanding the high duties.

With regard to production we have to mention a bad harvest in most continental countries, resulting in a further decrease of the world's supply of breadstuffs, and the consequent rise in prices. The two last sugar crops were larger than that of 1895-96, but not quite so large as the record crop of 1894-95. The Brazil coffee crops of 1896 and 1897 were enormous, and caused a breakdown in

the hitherto high prices of the article. The present American cotton crop is gigantic, probably over 11 million bales, and appears to have, similar to the 1894 crop, a depressing influence on other textile materials, even on those of which the statistical position is favourable. The production of iron and copper was again larger, but so was the demand, and stocks are reduced.

The future of prices of raw materials will depend on the American demand, and on any improvement in the condition of the East and of other extra-European countries, which, in my opinion, cannot be very far distant, but the general index number may be affected by any weakening in the now exceptional prices of wheat, and this must occur as soon as larger quantities are again brought to market.

In finance and company promotion the past year has been a busy one like its predecessor. Of politics and other events we have to record the Turkish-Greek war, with the frequent dissonance in the European concert, and the still undecided future of Crete, the famine in India and frontier risings, the protracted unsettled state of Cuba, with the constant fear of differences between Spain and the United States, the development of affairs in China, the engineering strike in England from July to the end of January, droughts in Australia and South Africa, and the third consecutive mild winter in Europe.

In currency matters there was the adoption of the gold standard by Japan, on the basis of 1 gold to $32\frac{1}{3}$ silver (equal to $29\frac{1}{6}d.$ per oz. std. and below the price which was at the time ruling), and the definite introduction of the gold standard in Russia; Japan has already acquired about 6,000,000*l.* of gold, and Russia has last year increased its stock by 12,500,000*l.*, making the total stock of the country about 155,000,000*l.*[15] In conjunction with this the Russian Government has decided to replace all 1 and 3 rouble notes, of which 233 million roubles had been issued, by silver (at the rate of $23\frac{1}{4}$ to 1 gold, or on the basis of 40·56*d.* per oz. std.), and I estimate that about 87 million oz. std. have been taken for this purpose during the last three years. The minister of finance estimates the requirements, including small tokens, at $2\frac{1}{2}$ to 3 roubles per head of population, or a total of 320—380 million roubles, and he says that the total supply amounts already to 240 million roubles. This would leave still 80—140 millions to be bought, equal to about 51—88 million oz. std. As the circulation of small notes only amounted to 233 million roubles, and of minor coins to about 80 millions, it appears probable that about 50—60 million oz. (equal to about 30—33 per cent. of a year's production of the world) will be sufficient for some time to come, and the purchases in the next few years will therefore be on a much smaller scale than hitherto.

[15] At the end of last year there were 155 million roubles gold in circulation, and 1,315 million roubles in the bank and treasury. As the net circulation of notes only amounted to 930 million roubles, it follows that 385 million roubles gold, equal to 41 million £, were unemployed, and retained as special reserve in the hands of the government.

The settlement of the United States currency makes, unfortunately, no progress whatever, although, with a little good will and only a moderate amount of gold, it could be placed in a sound position.

The production of gold was as follows, according to the Director of the Mint at Washington :—

	Kilos. Fine.	Value. £
1894	272,600 =	37,200,000
'95	300,000 =	41,000,000
'96	305,400 =	41,700,000

The production of 1897 is estimated at 48 million £. Of these, I find that about 9 millions were taken or retained by Asia, Africa, and Central and South America, while 12,000,000*l.* are usually reckoned to be used in the arts in Europe and North America. Of the balance of 27 million £, Russia took 12,500,000*l.*, leaving about 14,500,000 million £ for monetary purposes in the remainder of Europe, in North America and Australia.

The arithmetical mean of the 45 index numbers, which is 62 (against 61 in 1896), has, as in former years, again been subjected to two tests :—

Firstly, by using the same index numbers of the separate articles, but calculating each article according to its importance in the United Kingdom on the average of the three years 1894-96, when the mean for 1897 is 62·5, against 60·5 in 1896; or on the average of the five years 1871-75, when the mean for 1897 is 62·6, against 60·2 in 1896. Measured according to quantities the rise was therefore greater than shown by the index numbers, and this was principally due to the advance in such important articles as wheat, meat, and potatoes, which was greater than the decline for sugar, cotton, and wool.

Secondly, by calculating the quantities in the United Kingdom at their actual values (the production on the basis of my price tables, the imports at Board of Trade values, and consequently a considerable portion according to a different set of prices) and at the nominal values on the basis of the average prices from 1867-77. In this case the mean is 63·5, against 62·0 in 1896, and the rise is also greater than according to the ordinary index numbers.

The following table gives the figures which have served for the second test (see also the Society's *Journal*, 1886, pp. 613—19) :—

Movements of Forty-five Commodities in the United Kingdom (Production and Imports).

	Estimated Actual Value in each Period.	Nominal Values at Average Prices of 1867-77, showing Increase in Quantities.	Movement of Quantities, 1848-50 = 100.	Movement of Quantities, 1871-75 = 100.	Movement of Quantities from Period to Period.	Ratio of Prices according to this Table, 1867-77 = 100.
	Mln. £'s and dec.	Mln. £'s and dec.				
Avge. 1848-50....	219·8	294·8	100	56	—	74·6
„ '59-61....	350·1	382·7	130	73	30% over 1849	91·5
„ '69-71....	456·6	484·6	164	92	27% „ '60	94·2
„ '71-75....	548·8	526·3	178	100	—	104·3
„ '74-76....	537·8	538·4	183	102	—	99·9
„ '79-81....	489·7	578·5	196	110	19% over 1870	84·6
„ '84-86....	445·7	610·1	207	116	—	73·0
„ '89-91....	504·1	685·2	233	130	18% over 1880	73·6
„ '94-96...	453·7	723·5	245	137	—	62·7
1896.....	461·2	743·0	252	141	8% over 1890	62·0
'97*	464·7	731·5	248	139		63·5

* 1897 subject to correction after publication of the complete mineral produce returns.

The nominal values at the uniform prices of 1867-77 show the exact movements of quantities in the aggregate. The average quantities for the last two years were 8 per cent. larger than in 1889-91, 40 per cent. larger than in 1871-75, and 150 per cent. larger than in 1849.

The total imports into the United Kingdom and the exports of British and Irish produce last year were 685,600,000*l.*, or calculated at the prices of the preceding year 689,500,000*l.*, and at 1873 prices 1,176,000,000*l.*, giving an index number of 64·7 in 1897, against 65·1 in 1896 and 64·1 in 1895 (see the *Journal*, 1897, p. 187). The figures show a rise in 1896 and a slight fall in 1897, while in the case of the ordinary index numbers the movements were the reverse. The explanation of this difference is that the declared values in 1896 in the Board of Trade Returns were probably too high, and that these returns do not include the large quantities of meat and potatoes produced in the United Kingdom, which ruled considerably lower in 1896 and higher in 1897.

Construction of the Tables

The Table of *Index Numbers* is based on the average prices of the eleven years 1867-77, and the index numbers have been calculated in the ordinary arithmetical way; for instance, English wheat:—

	s.	*d.*	
Average, 1867-77....	54	6 = 100,	average point.
,, '55	74	8 = 137,	or 37 per cent. above the average point.
,, '97	30	2 = 55,	,, 45 ,, below ,,

The index numbers therefore represent simple percentages of the average point.

Certain articles which appear to have something in common have been grouped together, with the following result:—

		Example for 1897.	
		Total Numbers.	Average.
1. Vegetable food, corn, &c. (wheat, flour, barley, oats, maize, potatoes, and rice)	With 8 Index Nos.	480	60
2. Animal food (beef, mutton, pork, bacon, and butter)	,, 7 ,,	554	79
3. Sugar, coffee, and tea	,, 4 ,,	209	52
1—3. *Food*	,, 19 ,,	1,243	65
4. Minerals (iron, copper, tin, lead, and coals)	,, 7 ,,	460	66
5. Textiles (cotton, flax, hemp, jute, wool, and silk)	,, 8 ,,	407	51
6. Sundry materials (hides, leather, tallow, oils, soda, nitrate, indigo, and timber)	,, 11 ,,	678	62
4—6. *Materials*	,, 26 ,,	1,545	59
General average	,, 45 ,,	2,788	62

The *general average* is drawn from all 45 descriptions, which are treated as of equal value, and is the simple arithmetical mean as shown above.

*Average Prices of Commodities.**

No. of Article / Year.	0	1	2	3	4	5	6	7	8	1—8	9
		Wheat.		Flour.	Barley.	Oats.	Maize.	Potatoes.*	Rice.		Beef.‡
	Silver.†	English Gazette.	American.	Town Made White.	English Gazette.	English Gazette.	American Mixed.	Good English.	Rangoon Cargoes to Arrive.	Vegetable Food. Total.	Prime.
	d. per oz.	*s.* and *d.* per qr.	*s.* and *d.* per qr.	*s.* per sack (280 lbs.).	*s.* and *d.* per qr.	*s.* and *d.* per qr.	*s.* per qr.	*s.* per ton	*s.* and *d.* per cwt.		*d.* per 8 lbs.
1883.....	50 9/16	41·7	45	36	31·10	21·5	27 3/4	105	8·1	—	61
'84.....	50 1/16	35·8	36·6	31	30·8	20·3	25 1/4	75	7·8	—	58
'85.....	48 5/8	32·10	35	29	30·1	20·7	23	75	7	—	52
'86.....	45 3/8	31	35	28	26·7	19	21	80	6·7	—	49
'87.....	44 5/8	32·6	34	28	25·4	16·3	21 1/4	85	6·10	—	43
1888.....	42 7/8	31·10	37	30	27·10	16·9	23 1/2	80	7·1	—	48
'89.....	42 1/16	29·9	35	29	25·10	17·9	20	80	7·3	—	47
'90.....	47 11/16	31·11	35·6	29	28·8	18·7	20	70	7·3	—	47
'91.....	45 1/16	37	40	33	28·2	20	28	92	7·11	—	47
'92.....	39 13/16	30·3	33	28	26·2	19·10	21 3/4	70	7·8	—	47
1893.....	35 5/8	26·4	27·6	26	25·7	18·9	20	65	6·2	—	48
'94.....	28 15/16	22·10	23·6	22	24·6	17·1	20	70	5·10	—	47
'95.....	29 7/8	23·1	25·6	23	21·11	14·6	19 1/2	80	5·6	—	47
'96.....	30 3/4	26·2	29	25	22·11	14·9	15	55	6·2	—	45
'97.....	27 9/16	30·2	34·6	30	23·6	16·11	14 3/4	70	6·9	—	47
Average 1888-97	37	29	32	27 1/2	25 1/2	17 1/2	20 1/4	73	6 3/4	—	47
'78-87	50	40	43 1/2	34 1/2	31 1/2	21	25	102	8	—	55 1/2
'67-77	58 1/2	54 1/2	56	46	39	26	32 1/2	117	10	—	59
	Index Numbers (or Percentages) of Prices, the Average of 1867-77 being 100.										
1883.....	83·1	76	80	78	82	82	85	90	81	654	104
'84.....	83·3	65	65	65	79	78	78	64	77	571	98
'85.....	79·9	60	62	63	77	79	71	64	70	546	88
'86.....	74·6	57	62	61	68	73	65	69	66	521	83
'87.....	73·3	60	61	61	65	63	65	73	68	516	73
1888.....	70·4	58	66	65	71	64	72	69	71	536	81
'89.....	70·2	55	63	63	66	69	61	69	72	518	80
'90.....	78·4	59	63	63	73	72	61	60	72	523	80
'91.....	74·1	68	71	72	72	77	86	79	79	604	80
'92.....	65·4	56	59	61	67	76	67	60	77	523	80
1893.....	58·6	48	50	54	66	72	61	56	62	469	81
'94.....	47·6	41	42	48	63	66	61	60	58	439	80
'95.....	49·1	42	46	50	56	56	60	68	55	433	80
'96.....	50·5	48	52	54	59	57	46	47	62	425	76
'97.....	45·3	55	62	65	60	65	45	61	67	480	80

* The annual prices are the averages of twelve monthly or fifty-two weekly quotations; potatoes of eight monthly quotations, January to April and September to December.

† Index numbers of silver as compared with 60·84*d.* per ounce being the parity between gold and silver at 1 : 15½; not included in the general average.

‡ Meat (9—13), by the carcase, in the London meat market.

Average Prices of Commodities—Contd.

No. of Article	10	11	12	13	14	15	9—15	16A	16B	17	18A*	18B*
	Beef.	Mutton.		Pork.	Bacon.	Butter.		Sugar.			Coffee.	
Year.	Middling.	Prime.	Middling.	Large and Small, Average.	Waterford.	Friesland, Fine to Finest.	Animal Food. Total.	British West Indian Refining.	Beet, German, 88 p. c., f.o.b.	Java, Floating Cargoes.	Ceylon Plantation, Low Middling.	Rio, Good Channel.
	d. per 8 lbs.	*d.* per 8 lbs.	*d.* per 8 lbs.	*d.* per 8 lbs.	*s.* per cwt.	*s.* per cwt.		*s.* per cwt.	*s.* per cwt.	*s.* per cwt.	*s.* per cwt.	*s.* per cwt.
1883.....	51	73	61	49	72	123	—	19	20¼	24½	76	43
'84.....	49	64	53	48	70	120	—	13¼	13¼	17½	62	47
'85.....	44	56	47	45	68	111	—	13½	14¼	17½	60	39
'86.....	40	62	50	45	67	100	—	11¾	11¾	14½	68	46
'87.....	36	52	42	43	61	103	—	11¾	12½	14½	90	78
1888.....	39	58	47	40	61	100	—	13	13¾	16	80	64
'89.....	39	63	50	43	66	102	—	16	16½	19	95	76
'90.....	38	59	45	42	62	100	—	13	12½	15¼	101	83
'91.....	40	53	42	39	63	106	—	13½	13½	15½	101	76
'92.....	38	53	42	48	68	108	—	13½	13¾	16	104	68
1893.....	39	53	42	50	68	106	—	14¼	15	17¼	103	81
'94.....	37	55	42	44	59	98	—	11¼	11¼	13¾	102	75
'95.....	37	58	44	37	54	93	—	10	10	12	98	74
'96.....	34	53	39	35	50	98	—	10¾	10½	12½	95	58
'97.....	36	55	41	44	59	94	—	9¼	8⅞	11	95	40
Average 1888–97	37½	56	43½	42	61	100	—	12½	12½	14¾	97	70
'78–87	46	64½	53	49	71	116	—	17	18	21½	78	52
'67–77	50	63	55	52	74	125	—	23	24	28½	87	64

Index Numbers (or Percentages) of Prices, the Average of 1867-77 being 100.

											*	*
1883.....	102	116	111	94	97	98	722	84		86	87	67
'84.....	98	102	96	92	95	96	677	56		62	91	74
'85.....	88	89	85	87	92	89	618	59		62	69	61
'86.....	80	98	91	87	91	80	610	50		50	78	72
'87.....	72	83	76	83	82	82	551	52		51	104	122
1888.....	78	92	85	77	82	80	575	57		56	92	100
'89.....	78	100	91	83	89	82	603	69		67	109	119
'90.....	76	94	82	81	84	80	577	54		54	116	130
'91.....	80	84	76	75	85	85	565	57		54	116	119
'92.....	76	84	76	92	92	86	586	58		56	120	106
1893.....	78	84	76	96	92	85	592	62		61	118	127
'94.....	74	87	76	85	80	78	560	48		48	117	117
'95.....	74	92	80	71	73	74	544	43		42	113	116
'96.....	68	84	71	67	68	78	512	46		44	109	91
'97.....	72	87	75	85	80	75	554	39		39	109	64

* Index numbers not included in the general average.

Average Prices of Commodities—Contd.

No. of Article	18	19A*	19B*	19	16—19	1—19	20	21	22	—	23
	Coffee.	Tea.			Sugar, Coffee, and Tea.	Food. Total.	Iron.		Copper.		Tin.
Year.	Mean of 18A and 18B.	Congou, Common.	Average Import Price.	Mean of 19A and 19B.	Total.		Scotch Pig.	Bars, Common.	Chili Bars.	English Tough Cake.	Straits.
		d. per lb.	*d.* and dec. per lb.				*s.* and *d.* per ton	£ per ton	£ per ton	£ per ton	£ per ton
1883.....	Prices, see preceding page 18A and 18B.	5¾	12·46	—	—	—	46·9	5¾	63	67	93
84.....		6¼	11·78	—	—	—	42·1	5⅛	54	59	81
'85.....		6½	12·06	—	—	—	41·10	4⅞	43	47	87
'86.....		6½	11·77	—	—	—	39·11	4⅝	40	44	98
'87.....		5	10·58	—	—	—	42·3	4⅝	44	47	112
1888.....		4	10·99	—	—	—	39·11	4⅞	81	78	117
'89.....		4¼	10·79	—	—	—	47·9	6¼	51	54	93
'90.....		4½	10·65	—	—	—	49·7	6⅜	54	59	94
'91.....		5½	10·70	—	—	—	47·2	5⅝	51	55	91
'92.....		4⅞	10·07	—	—	—	41·10	5½	45	48	93
1893.....		5⅜	9·74	—	—	—	42·4	5	44	47	85
'94.....		4¼	9·59	—	—	—	42·8	4⅞	40	43	68
'95.....		4⅛	9·63	—	—	—	44·5	4⅞	43	46	63
'96.....		4	9·55	—	—	—	46·10	5	47	50	60
'97.....		4	9·32	—	—	—	45·4	5¼	49	52	62
Average 1888–97		4½	10⅛	—	—	—	45	5⅜	50	53	83
'78–87		6¾	12⅜	—	—	—	46	5½	55	60	89
'67–77		11¼	17¼	—	—	—	69	8¼	75	81	105

Index Numbers (or Percentages) of Prices, the Average of 1867-77 being 100.

		*	*								
1883.....	77	49	72	60	307	1,683	69	70	84	—	89
'84.....	73	56	68	62	253	1,501	61	62	72	—	77
'85.....	65	58	70	64	250	1,414	60	59	57	—	83
'86.....	75	58	69	64	239	1,370	58	56	53	—	93
'87.....	113	44	62	53	269	1,336	61	56	59	—	107
1888.....	96	36	64	50	259	1,370	58	59	108	—	111
'89.....	114	38	63	50	300	1,421	69	76	68	—	89
'90.....	123	40	62	51	282	1,382	72	77	72	—	90
'91.....	118	49	62	56	285	1,454	68	68	68	—	87
'92.....	113	43	59	51	278	1,387	61	66	60	—	89
1893.....	123	48	57	53	299	1,360	61	61	59	—	81
'94.....	117	38	56	47	260	1,259	62	59	53	—	65
'95.....	115	37	56	47	247	1,224	64	59	57	—	60
'96.....	100	36	56	46	236	1,173	68	61	63	—	57
'97.....	86	36	54	45	209	1,243	66	64	65	—	59

* Index numbers not included in the general average.

Average Prices of Commodities--Contd.

No. of Article	24	25	26	20—26	27	28	29A	29B	30A	30B	31
	Lead.	Coals.			Cotton.		Flax.		Hemp.		Jute.
Year.	English Pig.	Wallsend Hetton in London	Average Export Price.	Minerals. Total.	Middling American.	Fair Dhollerah.	St. Petersburg	Russian, Average Import.	Manila Fair Roping.	St. Petersburg Clean.	Good Medium.
	£ per ton	*s.* per ton	*s.* and dec. per ton		*d.* per lb.	*d.* per lb.	£ per ton	£ per ton	£ per ton	£ per ton	£ per ton
1883	12 7/8	18	9·35	—	5 3/4	3 7/8	30	30 1/2	46	26	14 1/4
'84	11 1/4	16 1/2	9·29	—	6	3 15/16	29 1/2	30 3/4	38	29	13 1/2
'85	11 5/8	16 1/2	8·95	—	5 5/8	4 1/4	34	35	35	29	12
'86	13 1/4	16	8·45	—	5 5/8	3 9/16	35	35	29	29	11 1/2
'87	12 7/8	16	8·32	—	5 1/2	3 9/16	32	31 1/2	34	29	12 1/4
1888	13 7/8	16 1/2	8·41	—	5 9/16	3 7/8	29	28	37	26	13 1/4
'89	13	17 1/2	10·21	—	5 15/16	4 1/8	28	28	50	26	15
'90	13 1/4	19	12·62	—	6	3 15/16	27	26	39	26	13 1/4
'91	12 1/2	19	12·16	—	4 11/16	3 1/4	28	26	32	24	13
'92	10 5/8	18 1/2	11·04	—	4 3/16	3	28	26	28	24	15
1893	9 3/4	19 1/2	9·90	—	4 5/8	3 9/16	34	31 1/2	26	24	13
'94	9 5/8	16 1/2	10·50	—	3 13/16	2 5/8	32	33	22	24	12 1/2
'95	10 3/4	15	9·33	—	3 27/32	2 3/4	26	28	19	25	11
'96	11 1/2	15	8·85	—	4 1/32	3 3/32	26	27	17 1/2	25	12 1/4
'97	12 5/8	15 3/4	8·98	—	3 29/32	3 1/32	24 1/2	27	16	25	11
Average 1888-97	12	17 1/4	10 1/4	—	4 1/16	3 5/16	28	28	28 1/2	25	
'78-87	14	16 3/4	9	—	6	4 1/4	33	34	35 1/2	26 1/2	15
'67-77	20 1/2	22	12 1/2	—	9	6 3/4	46	48	43	35	19
	Index Numbers (or Percentages) of Prices, the Average of 1867-77 being 100.										
1883	63	82	75	532	64	58	65		92		75
'84	55	75	74	476	67	59	64		86		71
'85	57	75	72	463	62	63	73		82		63
'86	65	73	68	466	57	53	75		74		61
'87	63	73	67	486	62	53	68		81		64
1888	68	75	67	546	62	58	61		81		70
'89	63	80	82	527	66	61	60		97		79
'90	65	86	101	563	67	58	56		82		70
'91	61	86	97	535	52	48	57		72		68
'92	52	84	88	500	46	45	57		67		79
1893	48	89	80	479	51	53	70		64		68
'94	47	75	84	445	42	39	69		59		66
'95	52	68	75	435	43	41	57		56		58
'96	56	68	71	444	48	46	56		55		64
'97	62	72	72	460	43	45	55		53		58

Average Prices of Commodities—Contd.

No. of Article	32A	32B	33	34	27—34	35A	35B	36	37A	37B	38
	Wool.			Silk.		Hides.		Leather.	Tallow.		Oil.
Year.	Merino, Port Phillip, Average Fleece.	Merino, Adelaide, Average Grease.	English, Lincoln Half Hogs.	Tsatlee.	Textiles. Total.	River Plate, Dry.	River Plate Salted.	Crop Hides, 30–45 lbs.	St. Petersburg, Y.C.	Town.	Palm.
	d. per lb.	*d.* per lb.	*d.* per lb.	*s.* per lb.		*d.* per lb.	*d.* per lb.	*d.* per lb.	*s.* per cwt.	*s.* per cwt.	£ per ton
1883.....	19	8½	10	15¾	—	9	7	15	50	43	41
'84.....	18¼	8⅛	10	14½	—	9	7	15	47	37½	36
'85.....	16½	6¾	9⅞	12¾	—	8¾	6½	15	38	30½	30
'86.....	15½	6⅝	10	13¾	—	8	5¾	15	31	26	24
'87.....	15¾	7	10⅝	14½	—	7¾	6¼	15	31	24	22
1888.....	15¾	7	10⅜	13	—	6¾	4⅞	14	36	28	22
'89.....	17½	8¼	11	13½	—	6¼	5	13½	38	27	25
'90.....	16	7½	11	14	—	5¾	5½	13	38	26	27
'91.....	14¾	6⅞	9¾	13	—	5½	5⅛	13	40	27½	26
'92.....	13	6	8¾	12¼	—	5½	4⅝	13	45	27	24
1893.....	12¾	6	10¼	12½	—	5½	4⅞	13	48	30½	28
'94.....	11¾	5⅜	10⅛	10	—	5½	4¾	12½	48	25½	24½
'95.....	12	5⅝	12	10	—	7⅛	6¼	13½	48	23	23
'96.....	13	6⅜	11½	10½	—	6¾	5½	13½	48	21	22
'97.....	12¼	6	9⅝	10¼	—	6½	5½	13½	40	20	22
Average 1888-97	14	6½	10½	12	—	6⅛	5¼	13½	43	25½	24½
'78-87	18½	8⅜	11¼	15	—	8⅝	6¼	15	41	35½	32½
'67-77	21¼	9⅞	19¾	23	—	9	7	16	45	45	39
	Index Numbers (or Percentages) of Prices, the Average of 1867-77 being 100.										
1883.....	89	51	68	562		100		94	103		105
'84.....	85	51	63	546		100		94	94		92
'85.....	73	50	55	521		95		94	76		77
'86.....	70	51	60	501		85		94	63		61
'87.....	72	54	63	517		88		94	61		56
1888.....	72	53	57	514		73		87	71		56
'89.....	82	56	59	560		70		84	72		64
'90.....	76	56	61	526		70		81	71		69
'91.....	70	49	57	473		66		81	75		67
'92.....	61	44	53	452		63		81	80		61
1893.....	60	52	54	472		65		81	87		72
'94.....	55	51	43	424		64		78	82		63
'95.....	57	61	43	416		84		84	79		59
'96.....	62	58	46	435		77		84	77		56
'97.....	59	49	45	407		75		84	67		56

Average Prices of Commodities—Contd.

No. of Article	39	40A	40B	41	42	43	44	45A	45B	35—45	20—45	1—45
	Oil.		Seeds.	Petroleum.*	Soda.	Nitrate of Soda.	Indigo.	Timber.		Sundry Materials. Total.	Materials. Total.	Grand Total.
Year.	Olive. £ per tun	Linseed. £ per ton	Linseed. s. per qr.	Refined. d. per gall.	Crystals. s. per ton	s. per cwt.	Bengal, Good Consuming. s. per lb.	Hewn, Average Import. s. per load	Sawn or Split, Average Import. s. per load			
1883.....	36	20	42	6½	66	11¼	6¼	52	48	—	—	—
'84.....	40	20	43	6¾	65	9½	6	48	46	—	—	—
'85.....	39	22	44	6⅞	55	10½	5¼	48	45	—	—	—
'86.....	38	20½	42	5⅞	49	10	5	43	43	—	—	—
'87.....	34	20½	38	5⅝	50	9½	4¾	38	42	—	—	—
1888.....	36	18½	39	6¼	48	10	4¾	41	44	—	—	—
'89.....	35	20	42	5¾	51	9½	4½	47	49	—	—	—
'90.....	41	23	43	5½	61	8½	4¼	44	46	—	—	—
'91.....	43	21	42	5⅝	64	8¾	4¾	40	43	—	—	—
'92.....	36	18½	39	5	66	8¾	4½	40	44	—	—	—
1893.....	36	20½	42	4	58	9¼	5½	38	43	—	—	—
'94.....	35	20¼	38	3⅞	42	9¼	5	36	44	—	—	—
'95.....	36	20¼	37	6	39	8¼	4¼	37	42	—	—	—
'96.....	30	17½	33	5½	42	8	4¼	40	44	—	—	—
'97.....	31	15	33	4¾	51	7¾	4	41	47	—	—	—
Average 1888–97	36	19½	39	5¼	52	8¾	4½	40½	44½	—	—	—
'78–87	40	23	46	6⅝	62	12½	6	47	47	—	—	—
'67–77	50	30	60	12½*	92	14	7¼	60	54	—	—	—
	Index Numbers (or Percentages) of Prices, the Average of 1867-77 being 100.											
1883.....	72	68	52	72	80	86	88	920	2,014	3,697		
'84.....	80	69	52	71	68	83	82	885	1,907	3,408		
'85.....	78	73	55	60	75	72	81	836	1,820	3,234		
'86.....	76	69	47	53	71	69	76	764	1,731	3,101		
'87.....	68	65	45	54	68	66	70	735	1,738	3,074		
1888.....	72	63	52	52	71	66	74	737	1,797	3,167		
'89.....	70	69	46	55	68	62	84	744	1,831	3,252		
'90.....	82	73	45	66	61	59	79	756	1,845	3,227		
'91.....	86	70	45	70	63	66	73	762	1,770	3,224		
'92.....	72	64	40	72	63	62	74	732	1,684	3,071		
1893.....	72	69	32	62	66	76	71	753	1,704	3,064		
'94.....	70	65	31	46	66	69	70	704	1,573	2,832		
'95.....	72	64	48	42	59	59	69	719	1,570	2,794		
'96.....	60	56	44	46	57	59	74	690	1,569	2,742		
'97.....	62	53	38	56	55	55	77	678	1,545	2,788		

* Petroleum as compared with the average from 1873-77 only.

V.—*Fires in London and the Metropolitan Fire Brigade in* 1897.

The following particulars are taken from the Report of the Chief Officer to the Fire Brigade Committee of the London County Council, in continuation of similar notices for former years:—

The report begins with a table giving a comparison of the brigade work since 1866. The figures for the last five years are:—

Number of Fires.

Year.	Serious.	Slight.	Total.
1893	180	3,230	3,410
'94	151	2,910	3,061
'95	142	3,491	3,633
'96*	122	3,494	3,616
'97	168	3,332	3,500
Average for Ten Years.			
1887–96	157	2,743	2,900
'97	168	3,332	3,500

* Since 1896 fires necessitating the getting to work of more than one standpipe or hydrant have been classed as serious.

"These cases of fire entailed the turning out of brigade men and appliances for work in extinguishing fires, not including chimney and false alarms.

"The number of fires in which life has been endangered is 138; the number in which a loss of life has occurred is 71; observing that in this calculation a life is said to be endangered when the person alluded to left the house by irregular means.

"The number of persons whose lives were endangered is 226. Of these 139 were saved, the remaining 87 lost their lives.

"*Causes of Fire where Loss of Life occurred.*—Mineral oil lamps 21, clothing coming in contact with fire 17, unknown 15, children playing with fire 11, candle 2, falling into fire 2, explosion of gas 1, intoxication 1.

"*Circumstances with respect to Loss of Life.*—Dead before the firemen arrived 22, taken out before the firemen arrived 54, died after the firemen arrived 3, taken out alive after the firemen arrived 8.

Comparative Table of Lives Lost during the last Ten Years.

	Lives Lost.	Lives Endangered.		Lives Lost.	Lives Endangered.
1888	48	178	1893	82	160
'89	44	184	'94	82	204
'90	61	212	'95	91	306
'91	61	268	'96	106	261
'92	64	169	'97	87	226

"Attention should be drawn to the fact that last year's work shows a large decrease in the number of lives lost, notwithstanding the lamentable case at Dixie Street, Bethnal Green, and the considerable improvement into the investigation of the causes of these 71 fires, only 16 of which are returned as unknown.

"It must be understood that the actual rescue work of people by the brigade is not limited to the above 8 cases which afterwards proved fatal.

"In 1,722 instances the brigade was called for chimneys on fire, of which 534 were false alarms.

"The false alarms received number 911, of which 363 were maliciously given, and resulted in 11 persons being brought to punishment. This number does not include 8 persons who for malicious or other reasons broke the covering glass without giving the alarm.

"I hope that the magistrates and police will be able to assist us in reducing the very large number of these malicious alarms, as they tend to have a far greater effect on the efficiency of our work than many would imagine; observing that to effectually put down this wanton misuse of the appliances for the public safety, the public themselves are to a great extent responsible, and could materially, by their vigilance, stop it.

"There have been 3 cases in which the water arrangements have not been satisfactory, all of which have been duly reported.

"The following additional duties have been undertaken:—

"Fire engine station at Whitefriars.

"Street station at Triangle, Mare Street, Hackney, E.

Staff.

367 firemen, including chief officer, second officer, superintendents, and all ranks.	17 pilots.
	77 coachmen.
	3 storekeepers.
32 men under instruction.	5 clerks.

Material.

59 land fire engine stations.	5 long fire ladders.
5 floating or river „	7 ladder vans.
3 sub-stations.	2 trollies for engines.
16 street stations.	11 hose and coal vans.
60 hose cart duties.	6 traps for visiting.
11 „ and ladder truck duties.	1 stores van.
205 fire escape duties.	2 waggons for street duties.
8 steam fire engines on barges.	156 watch boxes.
59 land steam fire engines.	159 horses.
63 six-inch manual fire engines.	114 telephone lines between fire stations.
7 under six-inch manual fire engines.	
7 hose tenders and escapes.	592 fire alarm call points.
14 „ and ladder trucks.	16 telephone lines to police stations.
115 „ carts.	89 telephone lines to public and other buildings.
36 miles of hose.	
8 steam tugs.	9 bell-ringing fire alarms to public and other buildings.
12 barges.	
12 skiffs.	1 speaking tube to public and other buildings.
235 fire escapes.	

"The number of accidents to members of the brigade recorded during 1897 is 111; none of these have been fatal.

"There have been during the year 382 cases of ordinary illness, 1 of which resulted in death.

"The total number of officers and men struck off the strength of the brigade during the year is 100."

The following particulars are obtained from the tables appended to the report, viz.: fires classified according to occupations, and arranged in the order of frequency of occurrence; to which are added, for the purpose of comparison, the corresponding figures for the three previous years:—

Number.	Occupations.	Number of Fires.			
		1897.	1896.	1895.	1894.
1	Private houses	900	949	1,003	851
2	Lodgings	726	801	726	596
3	Victuallers	81	83	81	82
4	Commons, roads, and open spaces	67	70	62	34
5	Under repair and building	46	37	33	27
6	Confectioners and pastrycooks	42	45	40	46
7	Tailors, clothiers, and outfitters	41	39	34	31
8	Offices	40	42	36	21
9	Drapers	40	39	33	44
10	Unoccupied	39	56	50	39
11	Greengrocers and fruiterers	38	35	44	45
12	Grocers	38	29	61	54
13	Butchers	38	18	26	24
14	Oil and colourmen	37	53	46	39
15	Printers and publishers	36	31	36	29
16	Boot and shoe makers	35	37	48	43
17	Refreshment rooms	35	29	23	26
18	Engineers and machinists	35	22	12	25
19	Builders	34	48	40	39
20	Hotels (including club houses)	31	30	23	14
21	Cabinet makers	29	43	28	20
22	Bakers	29	26	32	22
23	Provision merchants	28	25	23	16
24	Laundries	27	13	20	24
25	Coffee houses	26	35	33	31
26	Tobacconists	24	24	30	26
27	Fried fish shops	24	20	22	22
28	Chemists	23	21	13	14
29	Chandlers	21	28	24	26
30	Hairdressers	20	28	28	30
31	Waggons on the road	20	18	5	11
32	Furniture makers and dealers	19	24	21	23
33	Contractors	19	13	12	8
34	Railways	16	27	25	15
35	Beershop keepers	16	24	18	6
36	General dealers	16	23	15	4
37	Dairymen	16	14	19	8
38	Corn dealers	16	13	20	7
39	Booksellers, binders, and stationers	15	15	16	19
40	Stables	15	14	27	16

Number.	Occupations.	Number of Fires.			
		1897.	1896.	1895.	1894.
41	Milliners and dressmakers	14	15	10	11
42	Fishmongers	13	20	15	5
43	Carriers	13	3	12	12
44	Schools	13	4	12	11
45	Let out in tenements	12	7	10	7
46	China and glass dealers	12	12	9	13
47	Barges	11	8	4	6
48	Carpenters and workers in wood	11	8	11	9
49	Hosiers	11	9	14	10
50	Coal and coke merchants	10	14	14	16
51	Tinmen, braziers, and smiths	10	8	8	5
52	Upholsterers	10	6	12	8
	Remainder	562	561	614	491
		3,500	3,616	3,633	3,061

Fires classified under the causes to which they have been assigned, and arranged in the order of frequency of occurrence:—

	Causes.	Number of Fires.
1.	Unknown and doubtful	974
2.	Lamps (not gas) and lights thrown down	758
3.	Gas in various ways	268
4.	Candles	253
5.	Sparks from fires, &c.	228
6.	Defective or improperly set flues, hearths, stoves, &c.	204
7.	Children playing with fire, matches, &c.	190
8.	Overheating of flues, ovens, furnaces, boilers, &c.	88
9.	Hot ashes	87
10.	Airing linen and drying stoves	72
11.	Boiling over, or upsetting of fat, pitch, &c.	61
12.	Foul flues, &c.	46
13.	Overheating, &c., of portable gas stoves, &c.	40
14.	Mineral oil stoves, explosion or upsetting of	40
15.	Lucifer matches	34
16.	Clothes or goods coming in contact with fire	25
17.	Smoking tobacco	21
18.	Vapour of spirit in contact with flame	16
19.	Lime slaking by rain and otherwise	16
20.	Burning rubbish	11
21.	Lighted taper	11
22.	Electric wires, short circuit of	10
23.	Fireworks, letting off	8
24.	Spontaneous ignition	5
25.	Friction of machinery	5
26.	Lightning	5
27.	Fumigating	4
28.	Plumbers at work	4
	Miscellaneous varying from 3 to 1	16
	Total	3,500

V.—*English Literature in* 1897.

The following particulars are taken from the *Publishers' Circular* of the 1st January, 1898, in continuation of a series of similar extracts for previous years :—

"The number of publications recorded in our columns in the course of the past year is larger by some 1,400 than in 1896. In theology there is a rise of about 100, and in education of 160. A notable rise is that of some 300 in politics and commerce. The demand for light reading grows, and new fiction shows a considerable rise, but its large total is only increased by the same amount as the small total which previously stood to the credit of politics and commerce. In voyages and travels and in poetry the figures are much the same as last year. Of medical books, almost exactly the same number were published as appeared in 1895, but 100 more than in 1896. In Belles-Lettres the figures are about 80 less than in 1895, and about 90 more than in 1896. Compared with last year there is a falling off of about a score in arts and sciences, but in history and biography there is an increase of a like number. Law shows a slight decline. Miscellaneous works maintain an even level.

"The analytical table is divided into thirteen classes; also new books and new editions.

Divisions.	1896.		1897.	
	New Books.	New Editions.	New Books.	New Editions.
Theology, sermons, biblical, &c.	503	100	594	109
Educational, classical, and philological	529	114	692	236
Novels, tales, and juvenile works	1,654	525	1,960	717
Law, jurisprudence, &c.	132	50	93	47
Political and social economy, trade and commerce	247	99	531	110
Arts, sciences, and illustrated works	315	65	288	30
Voyages, travels, geographical research	191	32	173	48
History, biography, &c.	580	137	604	141
Poetry and the drama	284	123	298	129
Year-books and serials in volumes	313	—	422	—
Medicine, surgery, &c.	117	45	152	59
Belles-Lettres, essays, monographs, &c.	130	23	227	48
Miscellaneous, including pamphlets, not sermons	239	26	210	8
	5,234	1,339	6,244	1,682
	6,573		7,926	

Analytical Table of Books Published in 1897.

Subjects.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total of Books on each Subject for the Year.	
Theology, sermons, biblical	* 40	54	56	52	73	42	38	21	45	83	41	49	594	
	† 3	12	6	11	12	6	8	5	9	16	7	14	109	
														703
Educational, classical, and philological	* 53	46	76	48	54	35	76	46	77	75	55	51	692	
	† 11	9	14	15	22	31	33	9	30	25	24	13	236	
														928
Juvenile works and tales, novels, tales, and other fiction	*107	128	151	122	175	113	106	95	110	404	244	205	1,960	
	† 31	55	56	50	69	37	68	55	66	122	64	44	717	
														2,677
Law, jurisprudence, &c.	* 6	6	10	6	8	7	12	4	12	5	8	9	93	
	† 4	7	5	5	2	2	2	3	1	4	7	5	47	
														140
Political and social economy, trade and commerce	* 36	46	43	36	61	45	59	25	53	45	36	46	531	
	† 2	10	17	8	8	6	9	3	10	17	13	7	110	
														641
Arts, science, and illustrated works	* 28	32	28	17	32	22	18	11	15	25	25	35	288	
	† 5	3	4	4	2	—	1	2	3	—	—	6	30	
														318
Voyages, travels, geographical research	* 7	6	21	10	26	26	18	17	14	8	16	4	173	
	† 1	2	2	8	5	9	9	7	1	—	1	3	48	
														221
History, biography, &c.	* 56	45	45	37	72	47	42	3	35	92	51	79	604	
	† 9	13	1	15	13	12	18	9	8	12	14	7	141	
														745
Poetry and the drama	* 15	23	23	26	41	17	22	11	18	38	33	31	298	
	† 10	7	17	5	15	2	9	7	9	20	16	12	129	
														427
Year-books and serials in volumes	* 61	39	20	14	51	26	30	17	32	45	36	51	422	
	† —	—	—	—	—	—	—	—	—	—	—	—	—	
														422
Medicine, surgery, &c.	* 9	13	—	12	18	16	17	5	14	19	15	14	152	
	† 7	3	11	4	7	1	1	3	7	8	4	3	59	
														211
Belles-Lettres, essays, monographs, &c.	* 12	17	13	8	18	12	34	2	29	36	32	14	227	
	† 6	12	2	3	—	3	1	—	2	1	7	11	48	
														275
Miscellaneous, including pamphlets, not sermons	* 7	11	17	2	12	15	32	5	43	20	16	30	210	
	† 1	—	1	—	—	—	3	1	1	—	1	—	8	
														218
	527	599	639	518	796	532	666	366	644	1,120	766	753		7,926

* New books. † New editions.

VII.—*Notes on Economical and Statistical Works.*

Principles of Political Economy. By J. Shield Nicholson, M.A., D.Sc. Vol. ii, 328 pp. 15*s.* Black, 1897.

The first volume of Professor Nicholson's work was noticed in this *Journal* in 1893, p. 682.

In this second, which deals with exchange, we have an investigation of the problems of value, price and rent, demand and supply, money and the mechanism of exchange, banks and the money market, and finally foreign trade. As in the previous volume, so now the hedonistic calculus is wisely kept in the background, and diagrams are conspicuous by their absence. "The danger is that the very simplicity of the curves is apt to make us overlook the complexity of actual conditions. It is clear that as regards any commodity the immediate effect of a change of price upon demand and supply is very difficult to determine beforehand, even roughly; but every curve we draw assumes that for the smallest change in price there is a corresponding determinate change in the quantity demanded and in the quantity offered" (42). Professor Nicholson has been perhaps even more successful than Professor Marshall in showing that the main theories of economics can be explained without mathematics. He has not attempted to rival Professor Marshall in encyclopedic fulness of historical and literary illustration; but that too is rather gain than loss. Though historical illustration is not wanting, the book is confined on the whole to the modern forms of trade and industry.

It falls, broadly speaking, into three parts, which can be described by their chief subjects, value, money, and foreign trade. In the first part, the common theories are presented with the writer's usual clearness and strong good sense. There are many such words in season as the following: "The so-called law of increasing return cannot be considered in its relation to value as the analogue of diminishing return. The differences are fundamental. In the former case the cheapest method determines the price, and the other methods are gradually displaced with a continuous loss to those engaged in them, until finally the cheapest method prevails, and the cost becomes uniform. In the other case the differences are permanent if there is a continuous exceptional profit in the form of rent" (56). It might perhaps be answered that, if there was no unlikeness, there would also be no analogy, but an identity; but certainly in recent years the trust in analogy has been excessive, and the Professor's warning is well-timed. He shows similar caution in handling monopoly values, and his chapter on the subject is one of the best in the first part of his book (60—67).

In the second part, though he is true to the cause of Bimetallism, he is both candid and cautious in stating the case. The idea that money ought to be a standard of deferred payments is, of course, present (pp. 92 and 93); but admissions are made on the other side (pp. 96—98), and the monometallist might find a way of escape left

open to him. "It is in vain to point out that there has been no depreciation of silver relatively to commodities, when the cause of all the trouble has been its depreciation relatively to gold" (p. 158). "The simplicity of monetary transactions altogether outweighs the theoretical advantages of a tabular standard" (p. 159). "The greater part of people pay as little attention to general movements in prices as they do to slow geological changes in the crust of the earth. Just as in the one case it requires an earthquake or great tidal wave to attract their attention; so, in the other, nothing short of a commercial crisis or national insolvency will open their eyes" (p. 162).

After a full but not at all diffuse account of English and American banks, we have (in an Appendix, pp. 179—96) a particularly fresh and interesting history of banking in Scotland.

The third part of the book deals with the difficult questions of foreign trade and exchanges. It may be noted (1) that, as before, Professor Nicholson has found it possible to dispense with mathematics; (2) that he prefers to consider the problems in terms of money rather than of barter. The actual transactions, after all, are conducted in terms of money.

It must have needed some courage to introduce the British South African Company as the leading figure in a chapter of an economic treatise (ch. xxiv, on Chartered Companies, pp. 250, *et seq.*); but Adam Smith would certainly have done it, and could hardly have done it better.

Bimetallism. By Major Leonard Darwin. 8vo., 341 pp. London: John Murray, 1897.

A frank discussion of the difficult questions involved in the bimetallic controversy, in such reasonable fashion as that followed by Major Darwin, is indeed rare. There is no blinking of difficulties or quiet neglect of troublesome facts. The opinion of the writer as to the weight to be attached to different considerations is given freely enough, but not so as to prevent his unbiassed readers from forming conclusions of their own, possibly contradictory to his. The full value of this discussion can only be appreciated by following it from beginning to end. It is worth while, nevertheless, to select one or two of the most important conclusions reached, in order to indicate the nature of the discussions which occupy the volume.

First, the author boldly faces the much-debated and much-shirked question of the ratio. He emphatically rejects the old $15\frac{1}{2}$ ratio as undesirable, and favours the adoption of the market-ratio at the time of instituting bimetallism, assuming, for the purposes of this discussion, that it is desirable to introduce it. Some of his arguments in favour of this are undoubtedly forcible, but we are not sure that he gives all the necessary weight to the argument for a ratio between these limits, judiciously selected in view of the probable future. He does not reject such a compromise as absolutely and conclusively as he rejects the adoption of the $15\frac{1}{2}$ to 1 ratio.

Another important point debated is the relative advantages of

rising and falling prices, this, in fact, being a necessary step towards the decision of the question of the ratio. The conclusion reached is that the thing to be desired is something intermediate between steady average prices of commodities and a steady average money-value of the output of a day's or year's labour. The latter, meaning falling prices of commodities if the technical processes of production are undergoing improvement, is not accepted as itself desirable absolutely, because of the drag on production which results from falling prices. It is further suggested, or rather stated, as approximately the fact, that the former result has (for some years after 1873 at any rate) been experienced in silver-standard countries, the latter in gold-standard countries, Major Darwin being inclined to discount the statistics of improved wages earned, year in year out, by the wage earning classes taken in the bulk. The previously determined desideratum leads then, if this be a correct presentation of the approximate facts, to the desire for a standard of value giving results somewhere between those shown by the silver-standard and by the gold-standard.

The gain or loss arising from changes of price-level is apparently regarded by the author as no more than temporary, as leaving no necessarily permanent marks behind it when the disturbance has fairly passed away. In laying stress on this a useful service is rendered, though there may well be permanent results of great importance arising out of causes whose general effects are but temporary. Major Darwin concludes, too, that gold-using countries stand to gain by a rise in the value of silver only if, and so far as, this is a step towards stability in the standard of value and towards minimising exchange fluctuations.

One further point may be noticed, namely, that of the effect of changes in modern methods of business, not merely in facilitating exchanges without the actual employ of currency, but, on the other hand, of introducing more numerous intermediaries, involving more numerous exchanges for a given amount of production.

Major Darwin's conclusion is in favour of the desirability of bimetallism by international agreement at the market ratio, a conclusion the more weighty and valuable because of the display of sober common sense in the discussion of difficulties. Convinced monometallists would do well to study this book, and it is of equal importance to extreme bimetallists. It should lead both to modify their views—if only by a little.

Lectures on the Principles of Local Government. By George Laurence Gomme. 8vo., 264 pp. 12*s.* Constable and Co., 1897.

The course of lectures on local government which were delivered in the latter part of last winter at the London School of Economics are here reprinted. The subject is one eminently worthy of much greater attention than has hitherto been devoted to it, and we hope that Mr. Gomme's lectures may serve to stimulate a more adequate study of this vitally important matter. The lectures themselves are only seven in number, and the first four are concerned mainly with a study of local units of various kinds, a study in which the author's special knowledge makes

what he has to say of particular interest and value. The discussion of the origin and development of the borough particularly deals with a fascinating subject where divergent views have been held by scholars of great eminence. After the largely historical discussion, the fifth lecture brings us to the functions of local government. This and the two following lectures discuss numerous problems of great present interest. The lecturer holds the view that the governing principle in deciding on whether this or that function is proper to government is simply that of general utility. Further, the basis of local taxation should properly be contribution according to benefit. On the ground that benefits derived from local government expenditure enure to property owners through their possession of property, this leads to the apportionmeut of contribution in proportion to property. Of course there are services to which this principle does not properly apply.

A very valuable series of "Notes and Illustrations" is appended to the text of the lectures, which will, it may be hoped, be followed by further and fuller treatment of the same subject by the author if not also by some of his readers.

Norman's Universal Cambist. By John Henry Norman. Second edit. Demy 8vo., 275 pp. 12*s.* 6*d.* London: Effingham Wilson, 1897.

That it simplifies the understanding of foreign exchanges to keep clearly before the mind that the conception of the "par" is the exchange of metal for metal as simple equivalents is probable, and that it would further simplify conceptions if the variations of exchange were readily expressible as premium or discount in relation to this par is also probable. It is altogether another question whether the average student of Mr. Norman's book would derive from that study the clear perceptions of facts which the author aims to convey. He believes that the mysteries of foreign exchanges could be comprehended, through the unit-of-weight system, by children of 12 years of age or less. So far as the principles are concerned on which the facts of exchange are based, it is true that they should be able to be grasped, when carefully and clearly expounded, by persons of the average degree of intelligence. The working out of these principles, however, is apt to become tedious and confusing, and we doubt if the arithmetic of the exchanges is really much simplified by Mr. Norman's method. His extensive tables of equivalents, worked out to eight places of decimals, would demand considerable familiarity before they could be used promptly and effectively. He has rather an exalted idea of his work, as is shown when he writes "that his work has been simply that of unveiling that which has been hidden from the mass of mankind."

In respect to his description of existing monetary systems, we find it impossible to reconcile what he writes of the new Russian gold coinage with the specimens we have seen of that issue.

For ourselves, we are conscious of finding our conceptions of the matters treated grow more befogged as we perused this volume, only to be clarified again by considerable effort or rest.

Supplement to the Fifty-fifth Annual Report of the Registrar-General. Part II. 1*s.* 6*d.* 1897.

Though long delayed in preparation, for reasons but too well known, connected with the inadequacy of the office staff for coping with the very great amount of work demanded of them, there can be no hesitation as to the value of the study of occupational mortality which Dr. Tatham presents in this second part of the decennial supplement. The facts on which it is based are both more complete, in that they are exhaustive and not merely considerable samples, and more detailed than those on which previous reports on the subject have been based. In addition to the elaborate study of the effects of industrial conditions on mortality, there is presented a new life table for healthy districts. It is based on the mortality of the 263 districts, with a population of about one-sixth of that of the whole country, in which the death-rate in standard population (as given in Part I of the decennial supplement) fell below 15 per 1,000 in the decennium 1881-90. By way of contrast, these results and those for the country at large are compared with those for the township of Manchester. The contrast is effectively shown by the statement that the survivors of any given number born, of each sex, are as numerous in healthy districts at the age 50 for males and 48 for females as at 5 years of age in Manchester township. This, of course, shows only one phase of the contrast, but it is a most striking one. Only a close study of the detailed facts recorded in connection with these two most important studies in comparative statistics can enable their import to be fairly grasped, and we content ourselves with calling the attention of all students of vital statistics who have not yet studied this report to the great value of the material contained in it.

Statistical Abstract for London, 1897. Vol. i. 1*s.*

We offer a most cordial welcome to this addition to the annual official publications of statistics. The division of the tables is made into five parts, relating respectively to parishes, poor law areas, sanitary districts, the administrative county, and certain statistics where the county of London is included in a larger area. A comparative statement of population, &c., at each of the ten decennial censuses and as enumerated in 1896 for each of the sub-divisions under these heads is given, and for shorter periods comparisons year by year are made in such matters as vital statistics, vagrancy and pauperism, crime, markets, &c.

In many ways this abstract of statistics will help readers to realise London, but the sixth part of the tables may perhaps contribute to this more effectively even than the earlier parts. Here the comparison of London with the whole of England and Wales is worked out. Few of the statistics on these three and a half pages are brought down to a more recent date than 1894, but this does not prevent the information given being of the greatest use. With 15 per cent. of the population, London has over 32 per cent. of the workhouse population of the country, only 10 per cent. of the inhabited houses, less than 2 per cent. of the deaths from

small pox, 40 per cent of the telegrams forwarded, and 50 per cent. of the total expenditure on fire brigades. These samples may serve to show the range of information contained in the tables of this useful publication.

Researches into the Mathematical Principles of the Theory of Wealth. By Augustin Cournot, 1838. Translated by Nathaniel T. Bacon. 209 pp. 3*s.* The Macmillan Company, 1897.

The publication of an English edition of this famous economic classic will be welcomed by many who have found it difficult to procure copies of the original. In the preface, by Professor Irving Fisher, some brief indications relating to the life and published works of Cournot are given, and a bibliography of mathematical writings on economics occupies 37 pages at the end of the volume, prepared by the same distinguished young writer.

Dr. Fisher has published a review of Cournot's work in the January number of the *Quarterly Journal of Economics* of the current year, in which he weighs the relative importance of the different parts of the work, and indicates which parts may be omitted without marked loss in its study. The analysis and criticism of the article referred to will enable those who are strangers to the work to gain a fair conception of its contents and line of argument.

The translation possesses one advantage over the original in that a number of misprints are corrected. Of inaccuracies discovered, in number 35, two only affect the economic conclusions reached, and to these Dr. Fisher draws attention in his review. It is probable that the lively interest in mathematical economics which distinguishes our time, will be yet further quickened by the increased facility now offered for the study of a work by such a master-mind as that of Cournot.

Über einige Grundfragen der Socialpolitik und der Volkswirthschaftslehre. Von Gustav Schmoller. 8vo., 343 pp. 6 *m.* 40 *pf.* Leipzig: Duncker and Humblot, 1898.

Discussions on economic method, though not of very general interest, are of the greatest importance to specialists, at any rate when the views expounded issue from one of such authority as Professor Schmoller. Hence the advantage of the republication in a single volume of three essays of the Berlin Professor, one being a controversial pamphlet dating from 1874-75 directed against the views of von Treitschke; the second, an article on economic method, written in 1873 for Conrad's *Handwörterbuch;* the third, his inaugural address as Rector of the University of Berlin, delivered in October last, the title of which is "Wechselnde Theorien und feststehende Wahrheiten." It is an interesting and instructive address, and, though the least extensive of the three sections of the book, we refer particularly to it on account of the fact that the other parts were already sufficiently well known. It contains a sketch of the growth of economic opinion before our own age, and dwells on the developments which have been seen in the last quarter of a century in most civilised countries in the

matter of the attitude of theoretical economists. In Germany particularly the triumph of methods more rigorous than those of former days is shown. To every age comes new problems. In the face of the problems now presenting themselves, class and party interests should not weigh with leaders of academic thought. Their sole aim should be the interests and welfare of the community at large. Such is the natural declaration of the Rector to the University.

Die Produktivkräfte Russlands. By W. J. Kowalewski. Translated into German by E. Davidson. 580 pp. 12*s.* Leipzig, 1898.

The volume bearing this title is the authorised German edition of a statistical account of Russian industry prepared for the great exhibition at Nijni-Novgorod in 1896. The translator has omitted some discussions and some special sections, such as that dealing with meteorology, whose interest or connection with the genera subject was less direct. From the statistical point of view the contents of some of these chapters might have been valuable, and while the volume gains in symmetry, it loses somewhat in exhaustiveness. In relation to the Asiatic regions of Russia, information gathered for the report comprises very much previously not available in any form. Altogether a wealth of information on industrial matters in Russia is comprised in this work, to which a great number of authorities have contributed. The indications of vigorous development in many directions are conspicuous in the tables, which show the state of leading industries year by year since 1880. After 1887 the progress is accelerated greatly, as is shown in such important sections of industry as the extraction of coal, the production of iron and steel, and of textile fabrics, and in railway traffic.

Some figures as to numbers employed in various industries, and, in some cases, as to wages, are given, but these could not be summarised usefully here.

An important chapter, reviewing the course of foreign trade from 1856 to 1894, closes the volume. One interesting feature among the records here gathered is a series of figures showing the course of depreciation of the credit rouble. Another table shows the percentage of value of imports which customs duties reached at different periods. On food the percentage has risen from 31 in 1869, to 41 in 1879 and 73 in 1894; on raw materials and partly manufactured commodities from 5 per in 1869, to 10 per cent. in 1879 and 24 per cent. in 1894; while the corresponding figures for manufactured articles are 9 in 1869, 15 in 1879, and 27 in 1894. In neither case is the latest date that of the highest rates of duty within the last half dozen years of the table. The growth of imports from Finland has been remarkable as a percentage, though not striking as an absolute amount. The development of trade across Asiatic frontiers has been also extremely healthy. The figures of shipping have one or two special points of interest. One is that, compared with more than thirty years ago, while there is but little alteration in numbers of ships entered and cleared at Russian ports, the tonnage has

increased to something like quadruple its old figure. Of the increased tonnage, Russian ships comprise but a small proportion, these, in fact, being about as important an element as that under the Danish flag or that of Sweden and Norway. The gratifying fact that an increasing proportion of the shipping in Russian ports flies the British flag, is emphatically shown by a table which credits Britain with over 60 per cent. of foreign tonnage in 1894, Denmark following with a little over 8 per cent.

One final figure we will extract from this collection, and one which appears at variance with popular impressions in this country. In the six years 1889 to 1894, the migration from and to Russia is returned at nearly 13 million persons either way, but the net emigration of the six years is given as only 63,922 in all.

Statistical and Economical Articles in Recent Periodicals.

UNITED KINGDOM—

Economic Journal. December, 1897—Some fallacies in the theory of distribution: *Prof. A. T. Hadley.* Recent progress in the Housing of the Poor: *C. H. Denyer.* The lines of industrial conflict: *H. Bosanquet.* The rôle of Capital in Economic Theory: *Prof. I. Fisher.* Inaugural address to the Scottish Society of Economists: *Prof. J. S. Nicholson.* The Pure Theory of Taxation. III: *Prof. F. Y. Edgeworth.* West India sugar: *H. Cox.* A new property tax: *G. H. Blunden.*

Economic Review. January, 1898—The Quantitative Theory of Money: *W. W. Carlile.* The International Co-operative Congress of Delft: *H. W. Wolff.* Emigration: A Plea for State Aid: *R. E. Macnaghten.* Poor-law Reform: *G. Drage.*

UNITED STATES—

American Statistical Association Publications. December, 1897—Farm Ownership and Tenancy in the United States: *E. Atkinson and L. G. Powers.* Vital statistics at the American Public Health Association.

Annals of the American Academy of Political and Social Science. January, 1898—The study of the Negro Problems: *W. E. B. Du Bois.* Administrative Centralization and Decentralization in France: *J. T. Young.* The Relation of Postal Savings Banks to Commercial Banks: *J. H. Hamilton.* The Economic effects of ship canals: *J. A. Fairlie.*

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January—Les impôts et la richesse publique de 1869 à 1897: *A. Neymarck.* Note sur la statistique de l'assurance contre les accidents dans les mines allemandes: *M. Bellom.*

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Band xi, Hefte 5 *und* 6—Die Reform der direkten Steuern in Bayern, unter besonderer Berücksichtigung der sozialen und wirtschaftlichen Verhältnisse: *Prof. W. Lotz.* Die obligatorischen Schiedsgerichte in einigen englischen Kolonien: *Hon. W. P. Reeves.* Die Frage der kaufmännischen Schiedsgerichte in Deutschland: *Dr. J. Silbermann.* Zur Frage der kundigungslosen Entlassung der Arbeiter im deutschen Gewerberecht: *M. von Schulz.*

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Heft 1—Wanderungen, Anbau und Agrarrecht der Völker Europas nördlich der Alpen. 1. Abteilung: Siedelung und Agrarwesen der Westgermanen und Ostgermanen, der Kelten, Römer, Finnen und Slawen: *Dr. F. Grossmann.* Die wirtschaftliche Lage Russlands: *Dr. C. Ballod.* Alexander Herzens socialpolitische Ideen: *G. Jollos.* Die sociale Entwicklung der führenden Völker Europas in der neueren und neuesten Zeit: *K. Breysig.* Die Seeinteressen Deutschlands: *E. von Halle.* Die Karl Marx eigentümliche materialistische Geschichtsauffassung und Deutschland am Ende des neunzehnten Jahrhunderts: *A. von Wenckstern.*

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Heft 6, *December*, 1897 — Zur Kritik der politischen Oekonomie: *F. Blei.* Wirtschaft und Recht: *K. Diehl.* Kleinhandel, Konsumvereine und Warenhäuser: *J. Wernicke.*

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Statistische Monatschrift, 1897. *October*—Der Landeshaushalt in Oesterreich, insbesondere im Jahre 1893: *Dr. J. F. v. Friedenfels* (*continued in next number*).

ITALY—

Giornale degli Economisti, 1898—

January—La Banca di Francia (durante la Guerra e la Comune): *T. Molinari.* La Reforma delle Pensioni degli impiegati dello Stato: *C. Carassai.* I fondi di riserva e l'equilibrio del Bilancio: *G. di Flaminii.*

February—Alcune osservazioni intorno alla rendita fondiaria: *G. Valenti.* Brefotrofi ed esposti in Italia: *U. Imperatori.* Le smobilizzazioni bancarie e la circolazione cartacea: *V. Tangorra.* Tavola di sopravivenza: *L. Rameri.*

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Part 3, *November*, 1897—La legge ultima dell' evoluzione sociale: *M. A. Vaccaro.* Le leggi fondamentali dell' antroposociologia: *G. de Lapouge.* L'Immigrazione negli Stati Uniti: *E. Levasseur.*

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VIII.—*Quarterly List of Additions to the Library.*

Additions to the Library during the Quarter ended 15*th March*, 1898, *arranged alphabetically under the following heads:*—(a) *Foreign Countries;* (b) *India and Colonial Possessions;* (c) *United Kingdom and its Divisions;* (d) *Authors, &c.;* (e) *Societies, &c.* (*British*); (f) *Periodicals, &c.* (*British*).

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Commerce extérieur argentin. Année 1897. No. 96	
Higiene. Anales del Departamento Nacional de. (Current numbers)	The Department
Buenos Ayres (*City*). Monthly Return of Municipal Statistics. (Current numbers)	The Municipal Statistical Bureau
Austria-Hungary—	
Ackerbau-Ministeriums. Statistisches Jahrbuch für 1896. Heft 2. Bergwerksbetrieb Österreichs im Jahre 1896. Lief. 1 und 2	The Ministry of Agriculture
Ernteergebniss der wichtigsten Körnerfrüchte im Jahre 1897. Diagrams, 8vo.	
"Austria." Archiv für Gesetzgebung und Statistik auf den Gebieten der Gewerbe, des Handels und der Schiffahrt. (Current numbers.) 8vo.	The Statistical Department, Ministry of Commerce
Ausweis über die monatl. Durchschnittspreise von Weizen, Korn, Gerste, Hafer, und Mais in Marktorten. (Current numbers.) Sheets	The Central Statistical Commission
Consulats-Behörden. Jahresberichte der k. und k. österr.-ungar. (Current numbers.) 8vo.	The Statistical Department, Ministry of Commerce
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Handelsbewegung. Berichte über die, sowie Bewertung der im Jahre 1896 ein- und ausgeführten Waren des österr.-ungar. Zollgebiets. 8vo.	
Post- und Telegraphenwesens im Jahre 1896. Statistik des österr. 8vo.	
Rechtspflege. Statistische Ubersicht der Verhältnisse der österreichischen Strafanstalten . . ., 1893. Fol.	The Central Statistical Commission
Rechtspflege. Ergebnisse der Strafrechtspflege, 1894.	
Reichsrathswahlen. Ergebnisse der, für 1897. Map	
Statistische Monatschrift. (Current numbers)	
Hungary. Act xxxv of 1897 concerning the Central Statistical Office of the Kingdom of Hungary. Official Translation. 15 pp., 8vo.	The Royal Hungarian Statistical Bureau
Brünn. Statistischer Wochenbericht . . . der Landeshauptstadt Brünn. (Current weekly numbers)	The Burgomaster
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Bulletins hebdomadaires et trimestriels de la ville et communes-faubourgs. (Current numbers)	The Municipal Statistical Bureau
Verwaltungsbericht der k. Hauptstadt Prag . . . für 1893 u. 1894. Plans and plates. (With separate Table of Contents in French)	
Belgium—	
Annuaire Statistique de la Belgique. 27e année, 1896. Maps	The Bureau of General Statistics
Armée Belge. Statistique médicale. Année 1896. 8vo.	The Belgian Government
Commerce spécial avec les pays étrangers en ce qui concerne les principales marchandises. Bulletin mensuel du. (Current numbers.) 4to.	The Bureau of General Statistics
Mines de Belgique. Annales des, Année 1898. Tome iii, livraison 1. Plates, 8vo.	The Administration of Mines
Travail du Dimanche. Vol. iii, Belgique. Mines, Minières et Carrières. Tableaux statistiques et monographies. 8vo. 1898	The Belgian Labour Department
Travail. Revue du Travail publiée par l'Office du. (Current monthly numbers.) 8vo.	
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Bulletins hebdomadaires et trimestriels de statistique démographique et sanitaire. (Current numbers)	Dr. E. Janssens
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Annuaire Statistique. 2e année, 1897. Diagrams, 8vo. Causes des décès dans les villes du royaume en 1896. Communications de Statistique. 4e Série. Tome 1. 8vo. 1897 Importation et exportation, production d'eau-de-vie, de levure, de bière et de sucre de betteraves en 1896. 4to.	The Statistical Bureau
Nationalökonomisk Tidsskrift, 1898. (Current numbers)	The Danish Political Economy Society
Egypt—	
Budget du Gouvernement Egyptien pour l'Exercice 1898. La. fol.	Sir Elwin M. Palmer, K.C.M.G.
Commerce extérieur. Bulletin mensuel du. (Current numbers)	The Director-General of Customs
Postal Guide. Egyptian. No. 19, 1st Nov., 1897. 8vo.	The Post Office
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Institut Egyptien—	
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Agriculture. Bulletin du Ministère de l'. Année 1897. (Current numbers)	The Ministry of Agriculture
Annuaire Statistique de la France. xviie volume. 1897. Maps and diagrams, 8vo. Mouvement de la Population en 1896. Rapport sur le. 4 pp.	The French Labour Department
Commerce de la France. Documents Statistiques. (Current monthly numbers)	Purchased
Finances, Ministère des. Bulletin de Statistique et de Législation comparée. (Current monthly numbers)	The Ministry of Finance
Minérale. Statistique de l'Industrie, et des Appareils à vapeur en France et en Algérie pour 1896 avec un Appendice concernant la Statistique minérale internationale. Diagrams, 4to.	The Ministry of Public Works
Statistique Pénitentiaire pour 1895. Exposé général de la situation des services et des divers Etablissements. 8vo.	The Ministry of the Interior
Travail. Bulletin de l'Office du. (Current monthly numbers.) 8vo.	The French Labour Department
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Musée Social. Circulaires. (Current numbers.) 4to.	,,
Société de Statistique de Paris. Journal. (Current monthly numbers). Also Annuaire de 1898. 12mo.	The Society
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Berufs- und Gewerbezählung, 1895. Berufsstatistik der Bundesstaaten. Theil 3; und Berufsstatistik nach Ortsgrossenklassen. 2 vols. 1897	The Imperial Statistical Bureau
Gesundheitsamtes. Veröffentlichungen des Kaiserlichen. Nos. 27—52, 1897. 8vo.	The Imperial Health Bureau
Handel des deutschen Zollgebiets. Monatliche Nachweise über den auswärtigen. (Current numbers)	
Kriminalstatistik für 1894. Erlauterungen. Diagrams, 4to.	The Imperial Statistical Bureau
Seeschiffahrt. Statistik der, für 1896. Abth 1. 4to.	
Vierteljahrshefte zur Statistik des Deutschen Reichs. Jahrgang 1898. Heft 1. 4to.	
Prussia—	
Ernteertrages. Ergebnisse der Ermittelung des, für 1896. Diagrams, fol.	
Viehzählung, 1 Dec., 1892. Endgültigen Ergebnisse der, Theil 2, Viehbesitzstand der Gehöfte	The Royal Prussian Statistical Bureau
Volkszählung, 2 Dec., 1895. Endgültigen Ergebnisse der, . . . Theil 1. Fol.	
Saxony. Zeitschrift des K. Sächsischen Statistischen Bureaus. Jahrgang 1897. Hefte 3 und 4, und Beilage. 4to.	The Statistical Bureau of Saxony
Berlin—	
Eheschliessungen, Geburten, Sterbefälle, und Witterung. (Current weekly and monthly numbers)....	
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Tabellen über die Bewegung der Bevölkerung der Stadt Berlin im Jahre 1896. Fol.	
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Jahresbericht des Frankfurter Vereins für Geographie und Statistik. Jahrgang 1895-96. Map.	The Society

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Jahrbuch für Gesetzgebung, Verwaltung und Volkswirtschaft im Deutschen Reich. Heft 4 (Part 2, General Register, 1871-97). 1897. Heft 1, 1898	The Editor
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Commercio speciale di Importazione e di Esportazione. Statistica del. (Current monthly numbers)	
Relazione del Direttore generale del Fondo per il Culto . . . sulle attivita e passivita delle Parrocchie e delle mense vescovili del regno . . . (Dec., 1896). Fol. 1897	The Director-General of Statistics
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Statistica delle Confraternite. Vol. ii. La. fol., 1898	
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Rivista Italiana di Sociologia. Fasc. 1. 1898	,,
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Censo General de la Republica Mexicana, 1895. Estados de Coahuila y Hidalgo. 2 parts, la. 8vo.	
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Estadistica Fiscal. Importacion. Años fiscales de 1893-94 y 1892-93. 2 vols., fol. Diagrams, 1897	
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Norway—	
Annuaire statistique de la Norvège. 17e année. 1897	The Central Statistical Bureau
Assurances des bâtiments contre l'incendie. Statistique de l'Institution générale des, pour 1890-94	
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Recueil de Statistique roumaine. 187 pp., 8vo. 1898	Purchased
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Annuaire Statistique de la Russie, 1896. La. 8vo.	The Central Statistical Committee
Relevé général des Tableaux de l' "Annuaire Statistique de la Russie," 1896. La. 8vo.	
Aperçu bibliographique des publications statistiques de la Russie. 2e livraison. La. 8vo. 1897	
Budget of the Empire for 1898. Report of Minister of Finance on, (Another copy in French).....	The Ministry of Finance
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Commerce et Navigation en 1896. 8vo.....	
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Journal de statistique suisse. 1898. Livr. 1 et 2. 4to.	
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Aargau. Aargauische Statistische Mitteilungen für 1897. Kreditinstitute, 1895-97. Fol.	The Statistical Bureau
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Royal Meteorological Society— Meteorological Record. Monthly results of observations. Vol. xvi, Nos. 65 and 66, 1897	The Society
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IX.—PERIODICAL RETURNS.

REGISTRATION OF THE UNITED KINGDOM.

No. I.—ENGLAND AND WALES.

MARRIAGES—To 30th September, **1897.**

BIRTHS and DEATHS—To 31st December, **1897.**

A.—*Serial Table of* Marriages, Births, *and* Deaths, *returned in the Years* **1897-91,** *and in the* Quarters *of those Years.*

Calendar Years, **1897-91**:—*Numbers.*

Years.....	'97.	'96.	'95.	'94.	'93.	'92.	'91.
Marriages No.	—	242,445	228,204	226,449	218,689	227,135	226,526
Births..... ,,	921,104	917,201	922,291	890,289	914,572	897,957	914,157
Deaths .... ,,	541,426	527,929	568,997	498,827	569,958	559,684	587,925

Quarters *of each Calendar Year,* **1897-91.**

(I.) Marriages:—*Numbers.*

Qrs. ended last day of	'97.	'96.	'95.	'94.	'93.	'92.	'91.
March..... No.	44,618	43,199	39,627	47,809	40,243	42,835	49,203
June ..... ,,	68,745	65,833	60,665	53,509	58,928	59,958	52,678
September ,,	65,897	65,014	61,048	60,062	58,539	58,264	58,651
December ,,	—	68,399	66,864	65,069	60,979	66,078	65,994

(II.) Births:—*Numbers.*

Qrs. ended last day of	'97.	'96.	'95.	'94.	'93.	'92.	'91.
March..... No.	235,711	222,582	239,615	228,862	231,133	219,999	229,133
June ..... ,,	226,345	231,213	233,276	220,955	235,334	232,329	239,480
September ,,	233,090	227,845	232,410	215,851	229,396	228,771	224,580
December ,,	225,958	235,561	216,990	224,621	218,709	216,858	220,964

(III.) Deaths:—*Numbers.*

Qrs. ended last day of	'97.	'96.	'95.	'94.	'93.	'92.	'91.
March..... No.	143,630	136,809	170,102	147,964	144,291	182,614	157,987
June ..... ,,	126,078	124,950	130,399	118,651	133,064	132,080	171,842
September ,,	139,022	126,541	133,847	107,441	143,555	116,008	116,690
December ,,	132,696	139,629	134,649	124,771	149,048	128,982	141,406

Annual Rates of MARRIAGES, BIRTHS, *and* DEATHS, *per* 1,000 PERSONS LIVING *in the Years* **1897-91**, *and in the* QUARTERS *of those Years.*

Calendar YEARS, **1897-91**:—*General Ratios.*

YEARS.....	'97.	Mean '87-96.	'96.	'95.	'94.	'93.	'92.	'91.
Estmtd. Popln. of England and Wales *in thousands* in middle of each Year....	31,055,	—	30,717,	30,383,	30,052,	29,725,	29,402,	29,082,
Persons Married	—	15·1	15·7	15·0	15·1	14·7	15·4	15·6
Births	29·7	30·7	29·7	30·4	29·6	30·8	30·5	31·4
Deaths.....	17·4	18·6	17·1	18·7	16·6	19·2	19·0	20·2

QUARTERS *of each Calendar Year*, **1897-91.**

(I.) PERSONS MARRIED:—*Ratio per* 1,000.

Qrs. ended last day of	'97.	Mean '87-96.	'96.	'95.	'94.	'93.	'92.	'91.
March	11·7	11·7	11·3	10·6	12·9	11·0	11·7	13·7
June.....	17·8	15·6	17·2	16·0	14·3	15·9	16·4	14·5
September	16·8	15·6	16·8	15·9	15·9	15·6	15·7	16·0
December	—	17·4	17·7	17·5	17·2	16·3	17·8	18·0

(II.) BIRTHS:—*Ratio per* 1,000.

Qrs. ended last day of	'97.	Mean '87-96.	'96.	'95.	'94.	'93.	'92.	'91.
March	30·8	31·3	29·1	32·0	30·9	31·5	30·0	32·0
June...	29·2	31·4	30·2	30·8	29·5	31·7	31·7	33·0
September	29·8	30·4	29·4	30·3	28·5	30·7	30·9	30·6
December	28·9	29·7	30·1	28·3	29·6	29·2	29·3	30·1

(III.) DEATHS:—*Ratio per* 1,000.

Qrs. ended last day of	'97.	Mean '87-96.	'96.	'95.	'94.	'93.	'92.	'91.
March	18·8	21·3	17·9	22·7	20·0	19·7	24·9	22·0
June.....	16·3	18·1	16·3	17·2	15·8	18·0	18·0	23·7
September	17·8	16·6	16·3	17·5	14·2	19·2	15·7	15·9
December	17·0	18·4	17·9	17·6	16·5	19·9	17·4	19·3

B.—*Special Town Table:*—Population; Birth-Rate *and* Death-Rate *in each Quarter of* 1897, *in* Thirty-Three *Large Towns.*

Cities and Boroughs.	Estimated Population in the Middle of the Year 1897.	Annual Rate to 1,000 Living during the Thirteen Weeks ending							
		3rd April, 1897. (1st Quarter.)		3rd July, 1897. (2nd Quarter.)		2nd Oct., 1897. (3rd Quarter.)		1st Jan., 1898. (4th Quarter.)	
		Births.	Deaths.	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.
Thirty-three towns	10,992,524	31·7	19·2	30·0	16·9	31·1	21·2	30·1	19·0
London*	4,463,169	31·1	18·4	29·1	15·5	30·3	19·4	29·5	19·4
West Ham	273,682	33·4	14·9	30·7	13·3	32·3	19·1	32·2	15·4
Croydon	121,171	26·1	13·6	23·3	11·7	25·1	14·4	25·4	12·6
Brighton	121,401	24·7	15·3	23·0	13·0	25·6	17·7	25·3	14·3
Portsmouth	182,585	27·7	16·8	25·8	14·5	26·7	18·9	27·3	14·5
Plymouth	97,658	29·1	21·5	27·9	18·5	29·9	19·4	27·0	16·8
Bristol	232,242	28·7	20·2	26·4	15·8	28·7	15·3	27·2	17·5
Cardiff	170,063	31·1	16·3	30·4	14·3	31·8	15·8	31·2	13·3
Swansea	100,309	30·5	18·1	28·1	13·4	29·2	13·1	29·6	18·8
Wolverhampton	87,287	37·1	21·4	33·6	17·1	34·6	28·9	35·0	20·7
Birmingham	505,772	34·9	20·9	32·8	18·3	33·3	26·3	32·2	20·8
Norwich	110,154	32·3	18·6	30·9	15·3	28·9	20·2	30·1	20·9
Leicester	203,599	32·9	17·3	30·0	15·2	30·3	22·2	29·1	15·9
Nottingham	232,934	29·8	20·7	28·9	15·5	29·5	21·7	27·5	17·2
Derby	103,291	26·2	16·0	27·6	15·1	28·0	17·7	26·5	15·4
Birkenhead	111,249	32·7	18·0	31·0	16·2	33·2	20·9	29·5	18·0
Liverpool	633,078	36·6	23·9	34·2	21·8	35·8	28·8	34·6	22·9
Bolton	121,433	32·9	22·5	31·5	23·4	33·1	21·1	32·7	20·8
Manchester	534,299	34·4	23·5	32·8	22·7	33·8	26·0	32·0	20·2
Salford	213,190	37·9	23·1	33·9	25·5	34·9	28·1	33·6	18·9
Oldham	145,845	26·7	19·9	25·7	18·6	26·5	19·3	25·4	19·0
Burnley	106,122	30·6	20·1	28·8	18·1	32·1	20·2	27·6	19·7
Blackburn	131,330	29·2	20·3	27·5	17·3	28·1	19·8	26·0	20·6
Preston	115,103	31·6	21·6	34·0	20·2	32·5	33·9	29·4	21·7
Huddersfield	101,454	20·8	17·6	24·4	16·2	23·6	13·8	24·8	18·1
Halifax	95,747	21·0	17·2	22·2	17·2	23·8	13·2	23·0	18·3
Bradford	231,260	25·4	18·2	25·0	15·5	24·9	20·0	23·3	16·1
Leeds	409,472	32·9	20·0	31·9	16·7	31·0	21·9	30·7	20·9
Sheffield	351,848	35·5	18·5	33·0	19·4	34·9	26·1	34·2	20·8
Hull	225,045	32·7	17·3	33·0	15·5	34·9	25·1	32·8	16·4
Sunderland	142,107	33·8	20·0	33·6	18·4	37·0	22·1	34·1	18·3
Gateshead	101,070	36·7	17·7	35·9	16·6	34·9	20·5	35·8	18·2
Newcastle	217,555	31·8	18·8	31·4	17·9	31·5	21·6	30·5	18·1

* Including deaths of Londoners in the metropolitan workhouses, hospitals, and lunatic asylums situated outside Registration London, but excluding deaths of persons not belonging to London occurring in the London Fever Hospital, in the Metropolitan Asylum Board hospitals, and in the Middlesex County Lunatic Asylum, within Registration London. The deaths in the provincial towns have been similarly corrected.

C.—*Divisional Table:*—MARRIAGES *in the Year ending 30th September; and* BIRTHS *and* DEATHS *in the Year ending 31st December*, **1897**, *as Registered Quarterly.*

1 DIVISIONS. (England and Wales.)	2 AREA in Statute Acres.	3 Enumerated POPULATION, 1891.	4 MARRIAGES in Quarters ending 31st December, 1896.	5 31st March, 1897.	6 30th June, 1897.	7 30th September, 1897.
ENGLD. & WALES....*Totals*	37,317,885	No. 29,002,525	No. 68,399	No. 44,618	No. 68,745	No. 65,897
I. London	74,672	4,211,743	11,063	6,905	11,132	11,846
II. South-Eastern	3,993,270	2,867,078	6,417	3,781	5,915	5,790
III. South Midland	3,246,576	1,863,883	3,976	2,015	3,874	3,951
IV. Eastern	3,126,946	1,575,311	3,767	1,884	3,030	3,076
V. South-Western	5,026,461	1,908,998	3,817	2,643	3,835	3,565
VI. West Midland	4,048,533	3,252,105	8,020	4,862	8,235	7,466
VII. North Midland	3,495,980	1,808,494	4,425	2,577	4,697	3,962
VIII. North-Western	1,947,446	4,664,749	10,331	8,226	11,485	11,231
IX. Yorkshire	3,721,161	3,212,188	8,009	5,330	8,000	7,332
X. Northern	3,527,961	1,863,166	4,307	3,381	4,664	4,010
XI. Monmthsh. & Wales	5,108,879	1,774,810	4,267	3,014	3,878	3,668

8 DIVISIONS. (England and Wales.)	9 BIRTHS in each Quarter of 1897 ending 31st March.	10 30th June.	11 30th September.	12 31st December.	13 DEATHS in each Quarter of 1897 ending 31st March.	14 30th June.	15 30th September.	16 31st December.
ENGLD. & WALES....*Totals*	No. 235,711	No. 226,345	No. 233,090	No. 225,953	No. 143,630	No. 126,078	No. 139,022	No. 132,696
I. London	34,643	32,412	33,722	32,841	20,075	16,845	21,242	21,276
II. South-Eastern	20,066	18,771	20,023	19,556	12,270	10,460	11,438	10,627
III. South Midland	14,200	13,624	13,972	13,683	8,307	6,860	7,627	7,598
IV. Eastern	12,976	12,492	12,773	12,412	7,179	6,190	7,088	7,060
V. South-Western	13,044	12,247	12,415	12,135	9,426	7,449	6,629	7,218
VI. West Midland	27,561	26,243	26,699	25,951	17,263	14,374	16,015	15,076
VII. North Midland	15,205	14,417	14,801	14,447	9,023	7,652	8,465	7,763
VIII. North-Western	39,517	38,078	39,597	37,914	25,464	24,244	26,957	24,247
IX. Yorkshire	26,266	25,709	26,453	25,766	15,558	14,592	16,517	15,257
X. Northern	16,411	16,794	17,086	16,612	9,106	8,501	8,984	8,369
XI. Monmthsh. & Wales	15,822	15,558	15,549	14,641	9,959	8,911	8,060	8,205

D.—*General Meteorological Table,*

[Abstracted from the particulars supplied to the

1897. Months.	Temperature of Air. Mean.	Air. Diff. from Average of 126 Years.	Air. Diff. from Average of 56 Years.	Evaporation. Mean.	Evaporation. Diff. from Average of 56 Years.	Dew Point. Mean.	Dew Point. Diff. from Average of 56 Years.	Air—Daily Range. Mean.	Air—Daily Range. Diff. from Average of 56 Years.	Water of the Thames	Elastic Force of Vapour. Mean.	Elastic Force of Vapour. Diff. from Average of 56 Years.	Weight of Vapour in a Cubic Foot of Air. Mean.	Weight of Vapour in a Cubic Foot of Air. Diff. from Average of 56 Years.
	°	°	°	°	°	°	°	°	°		In.	In.	Grs.	Gr.
Jan.....	35·4	−1·3	−2·8	34·0	−2·7	31·8	−2·9	6·9	−2·5	...	·179	−·020	2·1	−0·2
Feb.....	43·0	+4·3	+3·8	41·3	+3·8	39·3	+4·3	3·8	−2·3	...	·240	+·034	2·8	+0·4
Mar. ...	45·0	+3·9	+3·3	42·0	+2·8	38·6	+2·7	13·3	−1·5	...	234	+·021	2·7	+0·2
Means...	41·1	+2·3	+1·4	39·1	+1·3	36·6	+1·4	9·7	−2·1	...	·218	+·012	2·5	+0·1
April ...	46·0	−0·2	−1·0	42·6	−1·2	38·8	−1·5	15·7	−2·7	...	·236	−·015	2·7	−0·2
May.....	52·3	−0·3	−0·5	46·9	−2·0	41·6	−3·4	20·3	−0·3	...	·263	−·035	3·0	−0·4
June ...	61·1	+2·7	+2·0	57·1	+2·5	53·2	+2·5	18·7	−2·4	...	·406	+·035	4·5	+0·5
Means...	53·1	+0·7	+0·2	48·9	−0·2	44·5	−0·8	18·2	−1·8	...	·302	−·005	3·4	−0·0
July.....	64·5	+2·8	+2·4	57·9	+0·3	52·5	−1·4	21·2	+0·3	...	396	−·019	4·4	−0·3
Aug. ...	62·9	+2·0	+1·6	57·9	+0·6	53·7	−0·2	19·4	−0·4	...	·413	−·003	4·6	−0·1
Sept. ..	55·2	−1·4	−1·9	52·0	−2·0	48·9	−2·2	15·6	−2·6	...	346	−·033	3·9	−0·4
Means...	60·9	+1·1	+0·7	55·9	−0·4	51·7	−1·3	18·7	−0·9	...	·385	−·018	4·3	−0·3
Oct.....	51·0	+1·6	+1·4	48·3	+0·7	45·6	+0·1	14·4	−0·1	...	·306	+·001	3·4	−0·4
Nov. ..	45·7	+3·2	+2·1	44·0	+2·4	42·0	+2·4	10·2	−1·1	...	·267	+·020	3·0	+0·1
Dec. ..	41·4	+2·4	+1·7	39·6	+1·4	37·3	+1·0	10·1	+0·7	...	·223	+·007	2·6	0·0
Means	46·0	+2·4	+1·7	44·0	+1·5	41·6	+1·2	11·6	−0·2	...	·265	+·009	3·0	−0·1

Note.—In reading this table it will be borne in mind that the sign (−) minus signifies

(Compiled from observations

for the Year ended 31st December, 1897.

Registrar-General by JAMES GLAISHER, F.R.S., &c.]

Degree of Humidity.		Reading of Barometer.		Weight of a Cubic Foot of Air.		Rain.		Daily Horizontal Movement of the Air.	Reading of Thermometer on Grass.					1897.
									Number of Nights it was			Lowest Reading at Night.	Highest Reading at Night.	
Mean.	Diff. from Average of 56 Years.	Mean.	Diff. from Average of 56 Years.	Mean.	Diff. from Average of 56 Years.	Amnt.	Diff. from Average of 82 Years.		At or below 30°.	Between 30° and 40°.	Above 40°.			Months.
		In.	In.	Grs.	Grs.	In.	In.	Miles.				°	°	
89	+ 2	29·707	− ·061	556	+ 2	1·61	−0·24	301	17	14	0	23·3	38·2	January
86	+ 2	29·929	+ ·119	552	− 2	2·39	+0·86	287	4	14	10	28·1	44·7	Feb.
79	− 2	29·518	− ·230	542	− 8	3·35	+1·81	403	4	19	8	26·8	46·0	March
85	+ 1	29·718	− ·057	550	− 3	Sum 7·35	Sum +2·43	Mean 330	Sum 25	Sum 47	Sum 18	Lowest 23·3	Highst 46·0	Means
77	− 2	29·687	− ·065	544	+ 1	1·82	−0·06	317	2	22	6	26·2	41·8	April
68	−10	29·795	+ ·004	539	− 1	1·25	−0·75	321	1	18	12	28·8	52·0	May
75	+ 1	29·848	+ ·035	530	− 2	1·93	−0·01	258	0	1	29	39·2	58·4	June
73	− 4	29·777	− ·009	538	− 1	Sum 4·80	Sum −0·82	Mean 299	Sum 3	Sum 41	Sum 47	Lowest 26·2	Highst 58·4	Means
65	−10	29·843	+ ·053	526	− 2	0·73	−1·85	251	0	1	30	37·0	56·0	July
72	− 5	29·670	− ·111	525	− 5	2·86	+0·48	279	0	0	31	46·9	56·5	August
80	− 1	29·824	+ ·018	536	+ 3	2·70	+0·36	272	0	4	26	34·8	53·6	Sept.
72	− 5	29·779	− ·013	529	− 1	Sum 6·29	Sum −1·01	Mean 267	Sum 0	Sum 5	Sum 87	Lowest 34·8	Highst 56·5	Means
82	− 7	30·001	+ ·292	544	+ 4	0·48	−2·33	226	1	16	14	29·4	51·7	October
87	− 4	30·013	+ ·266	550	+ 2	1·07	−1·26	257	4	18	8	21·2	47·5	Nov.
86	− 3	29·775	− ·014	551	− 1	2·14	+0·16	363	12	17	2	21·0	41·7	Dec.
85	− 5	29·930	+ ·181	548	+ 2	Sum 3·69	Sum −3·43	Mean 282	Sum 17	Sum 51	Sum 24	Lowest 21·0	Highst 51·7	Means

below the average, and that the sign (+) plus signifies above the average.

made at Greenwich.)

E.—*Comparative Table of* Consols, Provisions, Coal, *and* Pauperism *in each* Quarter *of* 1895-96-97.

Quarters ending	Average Prices of: 2¾*l.* per Cent. Consols (for Money) per 100*l.* Stock.*	Discount charged by the Bank of England.*	Wheat per Quarter in England and Wales.†	Meat per Pound at the Metropolitan Meat Market (by the Carcase).‡ Beef. Inferior Quality.	Beef. Second Quality.	Beef. First Quality.	Mutton. Inferior Quality.	Mutton. Second Quality.	Mutton. First Quality.	Coal (Seaborne) in the London Market per Ton.§	Pauperism. Quarterly Average of the Number of Paupers Relieved on the *Last Day* of each Week. In-door.	Out-door.
	£ *s. d.*	£	*s. d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*s. d.*		
1895												
Mar. 31	104 9 9	2·00	20 1	4	5 7/8	6 5/8	6 1/2	8 5/8	9 1/2	15 –	218,050	580,669
June 30	105 16 8	2·00	23 1	4 1/8	6 1/4	6 3/4	6 1/8	7 3/4	8 5/8	14 1‖	193,721	528,714
Sept. 30	107 9 8	2·00	23 11	4	5 7/8	6 7/8	5 1/2	7 5/8	8 3/8	14 –	188,971	515,313
Dec. 31	106 17 0	2·00	25 1	3 5/8	5 3/4	6 7/8	5 1/2	8 1/8	8 7/8	15 3	205,028	519,024
1896												
Mar. 31	108 9 6	2·00	25 8	3 1/2	5 3/4	6 5/8	5	7 3/4	8 1/2	14 6	212,102	535,813
June 30	112 1 6	2·00	25 2	3 1/2	5 1/2	6 1/2	4 7/8	7 1/2	7 7/8	13 6‖	193,072	517,456
Sept. 30	112 8 7	2·15	23 7	3 1/2	5 5/8	6 1/2	4 3/4	7	8	13 1	188,862	508,700
Dec. 31	110 2 8	3·77	30 5	3 1/2	5 3/8	6 3/4	4 3/4	7 1/4	8 1/8	16 2	205,270	513,660
1897												
Mar. 31	112 2 8	3·30	29 7	3 5/8	5 7/8	6 3/4	5 5/8	7 5/8	8 5/8	16 9	212,680	530,841
June 30	112 14 8	2·27	27 6	3 5/8	6	6 7/8	5 3/4	7 3/8	8 1/2	14 3‖	194,514	511,969
Sept. 30	112 5 10	2·29	30 4	3 1/2	6	6 7/8	5 3/8	7 1/2	8 1/2	15 –	190,185	507,087
Dec. 31	112 8 8	2·93	33 3	3 1/2	5 3/4	6 5/8	5	7 3/8	8 3/8	16 2	205,999	510,318

* Furnished by the Chief Cashier of the Bank of England.
† As published by the Board of Agriculture.
‡ Furnished by the Board of Agriculture.
§ The prices of coal are furnished by the Mineral Statistics Department of the Home Office.
‖ Sunderland coal only.

F.—*Special Average Death-Rate Table:*—Annual Rate *of* Mortality *per* 1,000 *in* Town *and* Country Districts *of* England *in each Quarter of the Years* 1895-97.

	Area in Statute Acres.	Population Estimated in the middle of 1897.	Quarters ending	Annual Rate of Mortality per 1,000 in each Quarter of the Years: 1897.	Mean '87-96.	1896.	1895.
Town Districts. The 100 Towns, together with all Registration Sub-Districts three-fourths of the population of which, as enumerated in 1891, resided within the boundaries of Urban Sanitary Districts*	4,222,051	21,145,236	March	18·9	21·8	18·5	23·4
			June	16·6	18·7	17·2	17·4
			Sept.	19·4	17·8	17·6	18·9
			Dec.	17·9	19·5	18·6	18·5
			Year	18·2	19·5	18·0	19·5
			Year	15·8	17·0	15·3	17·0
Country Districts. All the remaining Registration Sub-Districts of England and Wales—not coming within the above definition of Town Districts	33,095,834	9,910,119	March	18·4	20·3	16·6	21·5
			June	15·6	16·9	14·5	16·9
			Sept.	14·3	14·3	13·7	14·4
			Dec.	14·9	16·5	16·3	15·5

* For the years prior to 1894 the figures relate to the 33 great Towns; 67 other large Town districts (represented approximately by Registration Districts or Sub-Districts); and all other Registration Sub-Districts, three-fourths of the population of which, as enumerated in 1881, resided within the boundaries of Urban Districts existing in 1886.

No. II.—SCOTLAND.

BIRTHS, DEATHS, AND MARRIAGES, IN THE YEAR ENDED 31ST DECEMBER, 1897.

I.—*Serial Table:—Number of* BIRTHS, DEATHS, *and* MARRIAGES *in Scotland, and their Proportion to the Population estimated to the Middle of each Year, during each Quarter of the Years* **1897-93** *inclusive.*

	1897.		1896.		1895.		1894.		1893.	
	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.
1st Quarter—										
Births	31,720	3·05	31,033	2·98	31,781	3·10	30,776	3·03	31,351	3·11
Deaths.....	21,996	2·11	18,510	1·78	26,119	2·55	20,181	1·98	21,009	2·08
Marriages ..	7,457	0·72	7,046	0·68	6,073	0·59	6,391	0·63	6,315	0·62
Mean Temperature	38°·0		40°·8		33°·1		39°·2		39°·1	
2nd Quarter—										
Births	33,645	3·20	33,745	3·24	33,355	3·22	31,685	3·08	33,803	3·31
Deaths.....	20,127	1·91	17,613	1·69	19,991	1·93	17,510	1·70	19,588	1·92
Marriages ..	8,033	0·76	8,004	0·77	7,413	0·72	7,139	0·69	6,959	0·68
Mean Temperature	47°·8		52°·1		50°·6		48°·6		52°·2	
3rd Quarter—										
Births	32,127	3·02	32,052	3·05	31,840	3·04	30,015	2·89	31,287	3·03
Deaths.....	18,039	1·70	16,062	1·53	17,498	1·67	15,001	1·44	18,638	1·81
Marriages ..	7,559	0·71	7,493	0·71	7,191	0·69	6,480	0·62	6,675	0·65
Mean Temperature	56°·0		54°·7		56°·8		54°·9		56°·3	
4th Quarter—										
Births	31,331	2·95	32,323	3·07	29,478	2·81	31,861	3·06	30,599	2·97
Deaths.....	18,899	1·78	18,449	1·75	18,256	1·74	18,420	1·77	20,406	1·98
Marriages ..	7,917	0·74	7,713	0·73	7,703	0·74	7,551	0·73	7,141	0·69
Mean Temperature	43°·7		40°·4		40°·7		43°·0		42°·3	
Year—										
Population.	4,218,279		4,186,849		4,155,654		4,124,691		4,093,959	
Births	128,823	3·05	129,153	3·08	126,454	3·04	124,337	3·01	127,040	3·10
Deaths.....	79,061	1·87	70,634	1·69	81,864	1·97	71,112	1·72	79,641	1·95
Marriages ..	30,966	0·73	30,256	0·72	28,380	0·68	27,561	0·67	27,090	0·66

II.—*Special Average Table:—Number of Births, Deaths, and Marriages in Scotland and in the Town and Country Districts for each Quarter of the Year ending 31st December,* **1897**, *and their Proportion to the Population; also the Number of Illegitimate Births, and their Proportion to the Total Births.*

Registration Groups of Districts.	Total Births.		Illegitimate Births.		Deaths.		Marriages.	
	Number.	Annual Rate per Cent.	Number.	Per Cent. of Total Births.	Number.	Annual Rate per Cent.	Number.	Annual Rate per Cent.
1st Quarter—								
Scotland	31,720	3·05	2,354	7·4	21,996	2·11	7,457	0·72
Principal towns	13,758	3·23	914	6·6	10,123	2·38	3,696	0·87
Large ,, ...	4,503	3·26	266	5·9	2,898	2·10	1,055	0·76
Small ,, ...	6,706	3·05	499	7·4	4,284	1·95	1,477	0·67
Mainland rural	6,110	2·70	643	10·5	4,116	1·82	1,077	0·48
Insular ,, ...	643	2·13	32	5·0	575	1·91	152	0·50
2nd Quarter—								
Scotland	33,645	3·20	2,207	6·6	20,127	1·91	8,033	0·76
Principal towns	14,397	3·34	920	6·4	9,044	2·10	4,158	0·97
Large ,, ...	4,863	3·48	270	5·6	2,560	1·83	1,035	0·74
Small ,, ...	7,211	3·25	424	5·9	4,058	1·83	1,448	0·65
Mainland rural	6,595	2·89	561	8·5	3,877	1·70	1,329	0·58
Insular ,, ...	579	1·90	32	5·5	588	1·93	63	0·21
3rd Quarter—								
Scotland	32,127	3·02	2,285	7·1	18,039	1·70	7,559	0·71
Principal towns	13,556	3·11	976	7·2	8,228	1·89	4,127	0·95
Large ,, ...	4,506	3·19	245	5·4	2,391	1·69	1,045	0·74
Small ,, ...	7,069	3·15	438	6·2	3,713	1·65	1,344	0·60
Mainland rural	6,261	2·71	584	9·3	3,306	1·43	989	0·43
Insular ,, ...	735	2·38	42	5·7	401	1·30	54	0·18
4th Quarter—								
Scotland	31,331	2·95	2,138	6·8	18,899	1·78	7,917	0·74
Principal towns	13,500	3·10	895	6·6	8,632	1·98	3,846	0·88
Large ,, ...	4,339	3·07	249	5·7	2,653	1·88	943	0·67
Small ,, ...	6,697	2·98	422	6·3	3,673	1·64	1,484	0·66
Mainland rural	6,133	2·65	543	8·9	3,510	1·52	1,499	0·65
Insular ,, ...	662	2·15	29	4·4	431	1·40	145	0·47

Population of Scotland.

Population.	Scotland.	Principal Towns.	Large Towns.	Small Towns.	Mainland Rural.	Insular Rural.
By Census of 1891.....	4,025,647	1,583,566	515,762	852,401	947,966	125,952
Estimated to the middle of 1897	4,218,279	1,728,191	560,507	890,661	916,603	122,317

III.—*Divisional Table:*—MARRIAGES, BIRTHS, *and* DEATHS *Registered in the Year ended 31st December*, **1897.**

(Compiled from the Registrar-General's Quarterly Returns.)

1 DIVISIONS. (Scotland)	2 AREA in Statute Acres.	3 POPULATION, 1891. (*Persons.*)	4 Marriages.	5 Births.	6 Deaths.
		No.	No.	No.	No.
SCOTLAND ..... *Totals*	19,639,377	4,025,647	30,966	128,823	79,061
I. Northern	2,261,622	118,237	513	2,483	1,764
II. North-Western.....	4,739,876	164,262	711	3,766	3,066
III. North-Eastern	2,429,594	433,199	3,102	13,502	7,023
IV. East Midland	2,790,492	630,098	4,487	17,869	11,646
V. West Midland	2,693,176	313,749	1,918	9,796	5,809
VI. South-Western.....	1,462,397	1,563,097	14,050	58,196	34,063
VII. South-Eastern	1,192,524	599,213	5,089	18,298	12,297
VIII. Southern	2,069,696	203,792	1,096	4,913	3,393

No. III.—GREAT BRITAIN AND IRELAND.

SUMMARY *of* MARRIAGES, *in the Year ended 30th September*, **1897**; *and of* BIRTHS *and* DEATHS, *in the Year ended 31st December*, **1897.**

(Compiled from the Quarterly Returns of the respective Registrars-General.)

COUNTRIES.	[000's omitted.] Area in Statute Acres.	[000's omitted.] Population, 1891. (*Persons.*)	Marriages.	Per 1,000 of Population.	Births.	Per 1,000 of Population.	Deaths.	Per 1,000 of Population.
		No.	No.	Ratio.	No.	Ratio.	No.	Ratio.
England and Wales	37,318,	29,003,	247,659	8·5	921,104	31·8	541,426	18·7
Scotland	19,639,	4,026,	30,762	7·6	128,823	32·0	79,061	19·6
Ireland	20,323,	4,705,	22,801	4·8	106,532	22·6	83,826	17·8
GREAT BRITAIN AND IRELAND	77,280,	37,734,	301,222	7·9	1,156,459	30·6	704,313	18·7

Trade of United Kingdom, 1897-96-95.—*Distribution of* **Exports*** *from United Kingdom, according to their Declared Real Value; and the Declared Real Value (Ex-duty) of* **Imports** *at Port of Entry, and therefore including Freight and Importer's Profit.*

[000's omitted.]

Merchandise (*excluding Gold and Silver*) Imported from, and Exported to, the following Foreign Countries, &c.	1897.		1896.		1895.	
	Imports from	*Exports to*	Imports from	*Exports to*	Imports from	*Exports to*
I.—Foreign Countries.	£	£	£	£	£	£
Northern Europe; viz., Russia, Sweden, Norway, Denmark and Iceland	48,080,	16,450,	47,154,	15,245,	47,152,	14,621,
Central Europe; viz., Germany, Holland, and Belgium	76,409,	38,693,	76,068,	38,395,	72,958,	35,280,
Western Europe; viz., France, Portugal (with Azores, Madeira, &c.), and Spain (with Gibraltar and Canaries)	69,808,	19,836,	65,402,	20,197,	61,858,	19,942,
Southern Europe; viz., Italy, Austrian empire, Greece, Roumania, Bulgaria, & Malta	8,971,	10,483,	9,314,	9,985,	7,826,	9,795,
Levant; viz., Turkey, Asiatic and European (including Cyprus), and Egypt	15,507,	10,992,	14,976,	8,812,	15,276,	8,696,
Northern Africa; viz., Tripoli, Tunis, Algeria and Morocco	1,216,	965,	1,150,	1,075,	1,256,	1,309,
Western Africa	549,	1,002,	334,	970,	433,	919,
Eastern Africa; with African Ports on Red Sea, Aden, Arabia, Persia, Bourbon, and Kooria Mooria Islands	741,	2,399,	701,	1,954,	847,	1,372,
Indian Seas, Siam, Sumatra, Java, Philippines; other Islands	2,219,	2,708,	2,434,	2,870,	2,652,	2,734,
South Sea Islands	188,	185,	195,	123,	191,	102,
China and Japan, including Hong Kong	4,593,	12,930,	5,030,	14,574,	5,265,	11,790,
United States of America	113,195,	21,036,	106,347,	20,424,	86,549,	27,948,
Mexico and Central America	1,770,	2,450,	1,542,	2,787,	1,443,	2,838,
Foreign West Indies, Hayti, &c.	194,	1,147,	183,	1,336,	246,	1,602,
South America (Northern), New Granada, Venezuela, and Ecuador	723,	2,175,	780,	2,507,	606,	2,281,
„ (Pacific), Peru, Bolivia, Chili, and Patagonia	4,659,	2,957,	4,895,	3,455,	4,807,	3,928,
„ (Atlantic) Brazil, Uruguay, and Argentine Republic	9,829,	10,993,	13,344,	14,734,	13,160,	14,028,
Whale Fisheries; Grnlnd., Davis' Straits, Southn. Whale Fishery, Falkland Islands, and French Possessions in North America	157,	51,	163,	40,	145,	43,
Total—Foreign Countries	358,808,	157,452,	350,012,	159,483,	322,670,	159,228,
II.—British Possessions.						
British India, Ceylon, and Singapore	33,594,	30,954,	34,319,	33,135,	35,602,	27,667,
Austral. Cols.—N. So. W., Victoria & Queensld.	18,094,	12,755,	18,266,	13,199,	21,726,	11,323,
„ „ So. Aus., W. Aus., Tasm., N. Zealand, & Fiji Islands	11,236,	8,567,	11,137,	8,716,	11,637,	5,991,
British North America	19,027,	5,478,	16,444,	5,756,	13,401,	5,539,
„ W. Indies with Btsh. Guiana & Honduras	2,189,	2,587,	2,749,	2,886,	2,831,	2,807,
Cape and Natal	4,948,	13,383,	5,254,	13,821,	5,426,	10,581,
Brt. W. Co. of Af., Ascension and St. Helena	2,152,	1,785,	2,224,	1,846,	2,115,	1,576,
Mauritius	92,	285,	68,	306,	98,	235,
Channel Islands	1,332,	1,104,	1,336,	998,	1,184,	943,
Total—British Possessions	92,664,	76,898,	91,797,	80,663,	94,020,	66,662,
General Total £	451,472,	234,350,	441,809,	240,146,	416,690,	225,890,

* *i.e.*, British and Irish produce and manufactures.

Trade of United Kingdom, for the Years 1896-92.—*Declared Value of the Total Exports of* **Foreign** *and* **Colonial** *Produce and Manufactures to each Foreign Country and British Possession.*

Merchandise Exported to the following Foreign Countries, &c.	[000's omitted.] 1896.	1895.	1894.	1893.	1892.
I.—Foreign Countries.	£	£	£	£	£
Northern Europe; viz., Russia, Sweden, Norway, Denmark, & Iceland	6,473,	5,770,	6,771,	6,093,	5,648,
Central Europe; viz., Germany, Holland and Belgium	20,247,	20,664,	21,923,	22,641,	24,724,
Western Europe; viz., France, Portugal (with Azores, Madeira, &c.), and Spain (with Gibraltar and Canaries)	7,632,	7,398,	7,189,	7,582,	7,723,
Southern Europe; viz., Italy, Austrian Empire, Greece, Ionian Islands, and Malta	1,159,	1,259,	1,305,	1,367,	1,309,
Levant; viz., Turkey, Roumania, Syria and Palestine, and Egypt	432,	404,	554,	558,	670,
Northern Africa; viz., Tripoli, Tunis, Algeria, and Morocco	123,	151,	109,	126,	129,
Western Africa	72,	74,	84,	89,	86,
Eastern Africa; with African Ports on Red Sea, Aden, Arabia, Persia, Bourbon, and Kooria Mooria Islands	20,	13,	20,	17,	22,
Indian Seas, Siam, Sumatra, Java, Philippines; other Islands	48,	55,	62,	91,	69,
South Sea Islands	—	—	—	—	—
China, including **Hong Kong** and Japan	407,	392,	517,	446,	523,
United States of America	11,612,	16,120,	11,976,	11,758,	14,865,
Mexico and Central America	220,	197,	140,	136,	197,
Foreign West Indies and Hayti	523,	758,	884,	983,	1,316,
South America (Northern), New Granada, Venezuela and Ecuador	72,	60,	67,	77,	134,
„ **(Pacific)**, Peru, Bolivia, Chili, and Patagonia	254,	290,	238,	290,	394,
„ **(Atlantic)**, Brazil, Uruguay, and Argentine Confed.	594,	489,	458,	453,	501,
Other countries (unenumerated)	150,	107,	87,	80,	81,
Total—Foreign Countries	50,038,	54,201,	52,384,	52,787,	58,391,
II.—British Possessions.					
British India, Ceylon, and Singapore	844,	881,	927,	1,295,	1,303,
Austral. Cols.—New South Wales and Victoria, So. Aus., W. Aus., Tasm., and N. Zealand	2,439,	2,034,	1,943,	1,897,	2,247,
British North America	940,	1,056,	1,070,	1,361,	1,101,
„ W.Indies with Btsh.Guiana & Honduras	427,	412,	475,	447,	378,
Cape and Natal	1,064,	882,	663,	771,	665,
Brt. W. Co. of Af., Ascension and St. Helena	225,	203,	232,	213,	213,
Mauritius	21,	26,	26,	36,	21,
Channel Islands	204,	211,	209,	203,	210,
Other possessions	32,	36,	33,	33,	34,
Total—British Possessions	6,196,	5,741,	5,578,	6,256,	6,172,
General Total £	56,234,	59,942,	57,962,	59,043,	64,563,

IMPORTS.—(United Kingdom.)—**For the Years 1897-96-95-94-93.**—*Declared Real Value (Ex-duty), at Port of Entry (and therefore including Freight and Importer's Profit), of Articles of Foreign and Colonial Merchandise Imported into the United Kingdom.*

[000's omitted.]

Foreign Articles Imported.		1897.	1896.	1895.	1894.	1893.
		£	£	£	£	£
Raw Matls.—*Textile*, &c.	Cotton, Raw ...	32,195,	36,272,	30,429,	32,944,	30,685,
	Wool	26,752,	26,903,	28,427,	26,512,	26,323,
	Silk*	18,787,	18,739,	17,121,	14,606,	14,064,
	Flax	3,203,	3,117,	3,271,	2,525,	2,518,
	Hemp and Jute	5,906,	6,119,	6,446,	6,520,	5,788,
	Indigo	1,471,	1,534,	1,393,	1,149,	1,389,
		88,314,	92,684,	87,087,	84,256,	80,767,
,, ,,	*Various.* Hides	2,750,	2,225,	2,804,	2,231,	2,181,
	Oils	2,063,	2,432,	2,572,	2,906,	2,703,
	Metals	18,723,	18,266,	16,549,	17,083,	18,939,
	Tallow	1,870,	2,179,	2,575,	2,345,	2,162,
	Timber	23,637,	19,404,	15,743,	17,151,	15,387,
		49,043,	44,506,	40,243,	41,716,	41,372,
,, ,,	*Agricltl.* Guano	85,	104,	392,	146,	95,
	Seeds	5,751,	6,736,	6,279,	7,138,	7,020,
		5,836,	6,840,	6,671,	7,284,	7,115,
Tropical, &c., Produce.	Tea	10,443,	10,563,	10,243,	9,765,	10,125,
	Coffee and Chic...	3,616,	3,609,	3,835,	3,588,	4,049,
	Sugar & Molasses	16,198,	18,539,	17,897,	19,399,	22,239,
	Tobacco	4,072,	4,352,	3,354,	3,472,	3,549,
	Rice	2,116,	1,688,	1,982,	1,979,	2,140,
	Fruits	8,225,	7,156,	6,527,	7,266,	6,014,
	Wines	6,438,	5,946,	5,448,	5,018,	5,302,
	Spirits	2,021,	1,889,	1,823,	2,133,	1,899,
		53,129,	53,742,	51,109,	52,620,	55,317,
Food	Grain and Meal.	53,580,	52,800,	49,723,	48,220,	51,180,
	Provisions	61,428,	57,162,	55,164,	53,893,	53,270,
		115,008,	109,962,	104,887,	102,113,	104,450,
Remainder of Enumerated Articles		86,672,	83,640,	78,930,	73,600,	69,537,
Total Enumerated Imports		398,002,	391,374,	368,927,	361,589,	358,558,
Add for Unenumerated Imports (say)		53,237,	50,435,	47,763,	46,755,	46,130,
Total Imports		451,239,	441,809,	416,690,	408,344,	404,688,

* "Silk," inclusive of manufactured silk, "not made up."

EXPORTS.—(United Kingdom.)—**For the Years 1897-96-95-94-93.**—*Declared Real Value, at Port of Shipment, of Articles of* British *and* Irish *Produce and Manufactures Exported from the United Kingdom.*

[000's omitted.]

British Produce, &c., Exported.		1897.	1896.	1895.	1894.	1893.
		£	£	£	£	£
Manfrs.—*Textile.*	Cotton Manufactures..	54,061,	59,310,	54,455,	57,279,	54,699,
	,, Yarn	9,933,	10,045,	9,291,	9,286,	9,055,
	Woollen Manufactures	15,983,	18,269,	19,738,	14,011,	16,404,
	,, Yarn	6,597,	7,223,	7,259,	5,972,	6,027,
	Silk Manufactures.....	1,340,	1,423,	1,435,	1,222,	1,515,
	,, Yarn	256,	265,	296,	342,	383,
	Linen Manufactures	4,774,	5,031,	5,351,	4,505,	4,775,
	,, Yarn	977,	1,041,	966,	939,	1,005,
		93,921,	102,607,	98,791,	93,556,	93,863,
,, *Sewed.*	Apparel	4,980,	5,229,	4,525,	4,123,	4,260,
	Haberdy. and Mllnry.	1,486,	1,518,	1,353,	1,247,	1,492,
		6,466,	6,747,	5,878,	5,370,	5,752,
Metals, &c.	Hardware	2,107,	2,122,	1,856,	1,835,	2,047,
	Machinery	16,282,	17,014,	15,151,	14,205,	13,917,
	Iron	24,640,	23,802,	19,681,	18,689,	20,593,
	Copper and Brass.....	3,022,	3,037,	3,238,	2,772,	3,480,
	Lead and Tin	865,	921,	877,	950,	1,159,
	Coals and Culm	16,659,	15,156,	15,434,	17,371,	14,375,
		63,575,	62,052,	56,237,	55,822,	55,571,
Ceramic Manufcts.	Earthenware and Glass	2,771,	2,860,	2,782,	2,474,	2,751,
Indigenous Mnfrs. and Products.	Beer and Ale.....	1,622,	1,592,	1,524,	1,463,	1,509,
	Butter	70,	78,	102,	98,	86,
	Cheese	38,	37,	38,	40,	44,
	Candles	332,	357,	386,	331,	353,
	Salt.....	467,	470,	546,	304,	504,
	Spirits	1,827,	1,798,	1,560,	1,378,	1,196,
		4,356,	4,332,	4,156,	3,914,	3,692,
Various Manufcts.	Books, Printed	1,330,	1,309,	1,228,	1,218,	1,262,
	Furniture	629,	596,	517,	419,	521,
	Leather Manufactures	3,379,	3,474,	3,359,	3,124,	3,392,
	Soap	762,	746,	757,	621,	644,
	Plate and Watches	420,	388,	346,	301,	301,
	Stationery	950,	959,	860,	797,	816,
		7,470,	7,472,	7,067,	6,480,	6,936,
Remainder of Enumerated Articles		38,734,	38,312,	36,573,	34,733,	35,528,
Unenumerated Articles.....		17,057,	15,764,	14,406,	13,475,	14,002,
Total Exports.....		234,350,	240,146,	225,890,	215,824,	218,095,

SHIPPING.—(United Kingdom.)—*Account of Tonnage of Vessels Entered and Cleared with Cargoes, from and to Various Countries, during the* **Years** *ended Dec.,* **1897-96-95.**

Countries from whence Entered and to which Cleared.	Total British and Foreign.					
	1897.		1896.		1895.	
	Entered.	Cleared.	Entered.	Cleared.	Entered.	Cleared.
FOREIGN COUNTRIES.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Russia { Northern ports	1,778,863	1,519,785	1,808,101	1,422,206	1,762,777	1,376,973
Russia { Southern „	629,941	195,936	844,667	167,435	1,187,177	157,138
Sweden	1,776,449	1,606,891	1,771,171	1,468,781	1,640,714	1,385,037
Norway	1,400,877	1,060,627	1,294,848	1,016,192	1,176,770	1,018,052
Denmark	400,988	1,400,219	391,346	1,280,620	329,929	1,257,111
Germany	2,160,116	4,212,299	2,043,491	3,973,108	2,043,366	3,808,716
Holland	2,393,049	2,290,845	2,377,889	2,184,900	2,202,069	1,981,952
Belgium	1,838,348	1,864,973	1,780,683	1,765,574	1,711,738	1,640,702
France	2,745,226	4,480,550	2,522,416	4,194,015	2,318,490	3,998,153
Spain	3,395,975	1,502,275	3,224,741	1,461,755	2,750,704	1,412,097
Portugal	142,147	455,933	130,110	432,075	111,899	413,198
Italy	231,239	2,707,500	233,323	2,440,117	201,530	2,538,004
Austrian territories	101,346	248,776	81,963	197,231	86,060	198,379
Greece	213,718	193,308	198,912	180,799	168,456	178,455
Turkey	314,016	478,011	335,234	444,945	364,570	457,590
Roumania	235,383	233,858	282,587	216,962	213,782	219,325
Egypt	402,141	1,083,351	389,174	1,048,064	412,637	938,995
Algeria	223,508	254,585	169,177	220,120	179,744	215,887
United States of America	7,157,664	4,164,031	6,431,303	4,042,091	5,439,748	3,832,652
Mexico, Foreign W. Indies, and Central America	86,290	423,668	88,659	388,056	61,180	375,851
Republic of Colombia	90,682	160,832	109,272	191,085	95,783	158,946
Brazil	223,461	958,845	190,140	1,017,410	158,590	931,110
Peru	68,366	52,238	51,536	63,716	60,600	56,952
Chili	211,118	320,202	256,807	341,781	228,804	414,352
Uruguay	14,518	214,160	15,909	198,051	30,468	252,017
Argentine Republic	780,103	643,391	1,179,492	788,840	1,138,366	695,375
China	75,751	74,981	87,799	81,077	114,445	67,604
Java	33,629	195,940	49,263	184,775	75,795	192,868
Other countries	383,926	753,864	337,452	699,377	290,422	514,561
Total, Foreign Countries	29,508,838	33,751,874	28,677,465	32,111,158	26,556,613	30,688,052
BRITISH POSSESSIONS.						
North American Colonies	2,054,828	873,210	1,696,142	850,821	1,428,710	796,589
E. Indies, including Ceylon, Singapore, and Mauritius	1,119,291	1,502,591	1,248,637	1,707,499	1,395,151	1,938,878
Australia and New Zealand	816,373	875,480	818,564	843,525	952,212	817,247
West Indies	72,498	227,234	104,457	231,254	106,599	245,411
Channel Islands	423,083	364,435	402,101	329,597	360,248	302,395
Gibraltar and Malta	9,809	465,473	3,865	370,733	7,963	419,542
Cape of G. Hope and Natal	415,485	868,415	341,265	875,959	338,366	668,915
Other possessions	215,946	379,564	187,096	382,749	212,311	395,457
Total, British Possessions	5,127,313	5,556,402	4,802,127	5,592,137	4,801,560	5,584,434
TOTAL FOREIGN COUNTRIES AND BRITISH POSSESSIONS.						
Twelve Months ended December, 1897	34,636,151	39,308,276	—	—	—	—
Twelve Months ended December, '96	—	—	33,479,592	37,703,295	—	—
Twelve Months ended December, '95	—	—	—	—	31,358,173	36,272,486

GOLD AND SILVER BULLION AND SPECIE.—(United Kingdom.) —*Declared Real Value of,* IMPORTED AND EXPORTED *for the* Years 1897-96-95.

[000's omitted.]

Countries.	1897.		1896.		1895.	
	Gold.	*Silver.*	Gold.	*Silver.*	Gold.	*Silver.*
Imported from—	£	£	£	£	£	£
Australasia	10,604,	59,	4,606,	158,	5,865,	107
S. America, Brazil, Mexico, W. Indies	1,929,	1,849,	2,702,	1,702,	1,667,	1,286,
United States	68,	10,088,	3,171,	10,141,	11,132,	8,083,
	12,601,	11,996,	10,479,	12,001,	18,664,	9,476,
France	622,	3,018,	756,	1,741,	1,334,	612,
Germany, Holland, Belg., and Sweden	683,	2,803,	1,605,	260,	2,065,	354,
Portugal, Spain, and Gibraltar	544,	34,	860,	32,	604,	36,
Malta and Egypt	310,	69,	255,	128,	1,334,	66,
China, with Hong Kong and Japan	742,	13,	1,027,	72,	1,403,	1,
West Coast of Africa	148,	26,	205,	57,	172,	34,
British Possessions in South Africa	13,621,	33,	8,003,	13,	8,354,	50,
All other Countries	1,538,	40,	1,279,	25,	2,079,	37,
Totals Imported	30,809,	18,032,	24,469,	14,329,	36,009,	10,666,
Exported to—						
France	1,139,	964,	2,425,	2,915,	1,292,	1,458,
Germany, Holland, Belg. & Sweden	13,494,	2,442,	6,285,	647,	1,862,	323,
Russia	279,	6,639,	626,	3,553,	20,	1,287,
Portugal, Spain, and Gibraltar	9,	903,	93,	335,	181,	31,
	14,921,	10,948,	9,429,	7,450,	3,355,	3,099,
B. India, China, Hong Kong and Japan	7,787,	7,223,	2,952,	6,897,	1,429,	6,485,
United States	1,208,	16,	10,528,	7,	3,318,	8,
South Africa	—	61,	820.	166,	5,620,	76,
S. America, Brazil, Mexico, W. Indies	679,	21,	2,105,	92,	5,109,	262,
All other Countries	6,214,	512,	4,290,	436,	2,538,	427,
Totals Exported	30,809,	18,781,	30,124,	15,048,	21,369,	10,357,
Excess of imports	—	—	—	—	4,640,	309,
„ exports	—	749,	5,655,	719,	—	—

BRITISH CORN.—*Gazette Average Prices* (ENGLAND AND WALES), *Weekly for* **1897.**

Weeks ended on Saturday.	Weekly Average. (Per Imperial Quarter.)						Weeks ended on Saturday.	Weekly Average. (Per Imperial Quarter.)				
	Wheat.		Barley.		Oats.			Wheat.		Barley.		Oats.	
1897.	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	1897.	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
Jan. 2	30	6	24	8	16	2	July 3	27	1	18	10	18	7
„ 9	31	1	25	5	16	3	„ 10	27	4	17	4	18	8
„ 16	31	8	24	10	16	5	„ 17	27	7	17	6	18	3
„ 23	31	7	25	5	16	6	„ 24	28	1	18	10	18	11
„ 30	31	3	24	7	16	8	„ 31	28	10	17	10	19	–
Feb. 6	30	7	24	10	16	7	Aug. 7	29	5	17	9	18	11
„ 13	29	8	24	8	16	6	„ 14	29	8	19	–	17	4
„ 20	28	11	23	9	16	5	„ 21	30	4	19	2	17	2
„ 27	28	2	23	8	16	3	„ 28	31	8	22	5	17	1
March 6	28	3	23	–	16	3	Sept. 4	33	7	25	11	17	–
„ 13	27	11	22	11	16	2	„ 11	33	1	27	4	17	3
„ 20	27	11	22	8	16	2	„ 18	33	10	28	11	17	–
„ 27	27	9	22	5	16	3	„ 25	33	11	29	7	16	8
April 3	27	10	22	3	16	3	Oct. 2	33	4	29	10	16	4
„ 10	27	8	22	7	16	6	„ 9	32	1	28	9	16	–
„ 17	27	–	23	–	16	3	„ 16	31	10	28	3	16	1
„ 24	26	6	20	7	16	7	„ 23	32	2	27	5	16	2
							„ 30	32	10	27	5	16	–
May 1	27	9	20	5	17	3							
„ 8	28	4	21	5	16	11	Nov. 6	33	5	26	10	16	5
„ 15	27	11	20	2	17	7	„ 13	34	–	26	3	16	3
„ 22	28	1	19	10	17	9	„ 20	33	11	26	2	16	5
„ 29	28	2	21	3	17	10	„ 27	33	8	25	9	16	8
June 5	27	10	20	8	17	9	Dec. 4	33	9	25	10	16	9
„ 12	27	4	22	8	17	11	„ 11	33	9	26	–	16	6
„ 19	27	–	23	9	18	–	„ 18	34	1	26	4	17	–
„ 26	27	–	19	9	18	6	„ 25	34	4	26	11	17	–

BRITISH CORN.—*Gazette Average Prices* (ENGLAND AND WALES), *Summary of, for* **1897**, *with those for* **1896** *added for Comparison.*

Average for	Per Imperial Quarter, 1897.						Per Imperial Quarter, 1896.					
	Wheat.		Barley.		Oats.		Wheat.		Barley.		Oats.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
January	31	2	24	11	16	4	25	7	23	10	13	10
February	29	4	24	2	16	5	26	2	22	2	13	11
March	27	11	22	9	16	2	25	2	21	3	13	7
First quarter	29	6	23	11	16	4	25	8	22	5	13	9
April	27	3	22	1	16	4	24	10	21	10	13	6
May	28	–	20	7	17	5	25	6	21	6	14	5
June	27	3	21	8	18	–	25	1	20	8	14	10
Second quarter	27	6	21	3	17	3	25	2	21	4	14	3
July	27	9	18	–	18	8	24	4	18	3	15	–
August	30	3	19	7	17	7	22	11	20	9	14	4
September	33	7	27	11	16	11	23	9	24	–	14	1
Third quarter	30	6	21	10	17	9	23	8	21	–	14	6
October	32	5	28	4	16	1	27	10	28	10	15	9
November	33	9	26	3	16	5	32	4	27	–	17	6
December	33	11	26	3	16	9	31	8	25	1	16	7
Fourth quarter	33	4	26	11	16	5	30	7	27	–	16	7
THE YEAR	30	3	23	6	16	11	26	3	22	11	14	9

BANK OF ENGLAND.

Pursuant to the Act 7th and 8th Victoria, cap. 32 (1844)

[0,000's omitted.]

1	2	3	4	5	6	7
Issue Department.					Collateral Columns.	
Liabilities.		Assets.				
Notes Issued.	Dates. (Wednesdays.)	Government Debt.	Other Securities.	Gold Coin and Bullion.	Notes in Hands of Public. (Col. 1 minus col. 16.)	Minimum Rates of Discount at Bank of England.
£ Mlns.	1897.	£ Mlns.	£ Mlns.	£ Mlns.	£ Mlns.	Per cnt.
49,26	Jan. 6	11,02	5,78	32,46	26,57	4
50,21	„ 13	11,02	5,78	33,41	26,02	
50,90	„ 20	11,02	5,78	34,10	25,76	3½
51,60	„ 27	11,02	5,78	34,80	25,63	
51,73	Feb. 3	11,02	5,78	34,93	25,86	3
52,07	„ 10	11,02	5,78	35,27	25,64	
52,81	„ 17	11,02	5,78	36,01	25,47	
53,31	„ 24	11,02	5,78	36,51	25,56	
53,21	Mar. 3	11,02	5,78	36,41	26,07	
53,67	„ 10	11,02	5,78	36,87	25,86	
53,90	„ 17	11,02	5,78	37,10	25,90	
54,35	„ 24	11,02	5,78	37,55	26,20	
53,80	„ 31	11,02	5,78	37,00	27,26	
52,73	April 7	11,02	5,78	35,93	27,62	2½
50,68	„ 14	11,02	5,78	33,88	27,84	
50,69	„ 21	11,02	5,78	33,89	27,29	
50,89	„ 28	11,02	5,78	34,09	27,20	
50,57	May 5	11,02	5,78	33,77	27,58	
50,50	„ 12	11,02	5,78	33,70	27,41	2
50,98	„ 19	11,02	5,78	34,18	27,19	
50,89	„ 26	11,02	5,78	34,09	27,18	
50,42	June 2	11,02	5,78	33,62	27,58	
50,23	„ 9	11,02	5,78	33,43	27,36	
50,76	„ 16	11,02	5,78	33,96	27,29	
51,09	„ 23	11,02	5,78	34,29	27,50	
51,52	„ 30	11,02	5,78	34,72	28,48	
51,20	July 7	11,02	5,78	34,40	28,26	
51,25	„ 14	11,02	5,78	34,45	28,05	
51,34	„ 21	11,02	5,78	34,54	27,92	
51,15	„ 28	11,02	5,78	34,35	27,96	
50,55	Aug. 4	11,02	5,78	33,75	28,50	
50,08	„ 11	11,02	5,78	33,28	28,01	
50,50	„ 18	11,02	5,78	33,70	27,89	
50,74	„ 25	11,02	5,78	33,94	27,63	
50,25	Sept. 1	11,02	5,78	33,45	28,01	
49,85	„ 8	11,02	5,78	33,05	27,65	
49,75	„ 15	11,02	5,78	32,95	27,36	
49,07	„ 22	11,02	5,78	32,27	27,09	2½
48,84	„ 29	11,02	5,78	32,04	28,15	
47,77	Oct. 6	11,02	5,78	30,97	28,41	
46,58	„ 13	11,02	5,78	29,78	27,87	3
46,37	„ 20	11,02	5,78	29,57	27,51	
46,44	„ 27	11,02	5,78	29,64	27,27	
46,14	Nov. 3	11,02	5,78	29,34	27,58	
46,13	„ 10	11,02	5,78	29,33	27,37	
46,33	„ 17	11,02	5,78	29,53	27,21	
46,72	„ 24	11,02	5,78	29,92	26,87	
46,71	Dec. 1	11,02	5,78	29,91	27,34	
46,65	„ 8	11,02	5,78	29,85	27,12	
46,46	„ 15	11,02	5,78	29,66	27,04	
45,46	„ 22	11,02	5,78	28,66	27,55	
45,16	„ 29	11,02	5,78	28,36	27,35	

—Weekly Return.

for Wednesday in each Week, during the Year **1897.**

[0,000's omitted.]

8	9	10	11	12	13	14	15	16	17	18
Banking Department.										
Liabilities.						Assets.				
Capital and Rest.		Deposits.		Seven Day and other Bills.	Dates. (Wednesdys.)	Securities.		Reserve.		Totals of Liabilities and Assets.
Capital.	Rest.	Public.	Private.			Government.	Other.	Notes.	Gold and Silver Coin.	
£	£	£	£	£		£	£	£	£	£
Mlns.	Mlns.	Mlns.	Mlns.	Mlns.	1897.	Mlns.	Mlns.	Mlns.	Mlns.	Mlns.
14,55	3,41	8,06	46,84	,12	Jan. 6	15,72	32,52	22,69	2,06	72,98
14,55	3,44	6,99	45,04	,18	„ 13	14,94	28,90	24,18	2,19	70,20
14,55	3,46	8,44	44,03	,17	„ 20	14,24	28,97	25,14	2,31	70,65
14,55	3,47	9,59	43,22	,15	„ 27	14,24	28,47	25,97	2,31	70,98
14,55	3,50	10,67	43 02	,16	Feb. 3	14,77	28,88	25,87	2,38	71,90
14,55	3,51	13,18	40,70	,15	„ 10	14,77	28,46	26,43	2,43	72,08
14,55	3,53	15,09	40,19	,17	„ 17	15,09	28,64	27,34	2,47	73,53
14,55	3,53	16,23	40,28	,15	„ 24	15,09	29,40	27,75	2,52	74,76
14,55	3,75	16,21	39.79	,19	Mar. 3	14,41	30,32	27,14	2,62	74,48
14,55	3,75	16,98	38,13	,20	„ 10	14 52	28,76	27,81	2,53	73,62
14,55	3,76	16,84	38,54	,19	„ 17	14,39	28,91	28,00	2,58	73,88
14,55	3,80	17,14	38.08	,17	„ 24	14,39	28,71	28,15	2,50	73,74
14,55	3,79	16,15	38,55	,16	„ 31	14,37	29,94	26,55	2,34	73,20
14,55	3,13	11,13	41,37	,22	April 7	13,84	28,98	25,11	2,47	70,40
14,55	3,14	10,95	38,82	,20	„ 14	13,84	28,45	22,84	2,52	67,65
14,55	3,14	11,66	38,86	,14	„ 21	13,84	28,70	23,40	2,40	68,35
14,55	3,14	11,22	38,90	,14	„ 28	13,84	28,02	23,69	2,40	67,96
14,55	3,14	9,68	39,48	,20	May 5	13,84	27,74	22,99	2,48	67,05
14,55	3,13	10,19	39,45	,19	„ 12	13,84	28,05	23,10	2,52	67,51
14,55	3,14	11,49	39,50	,18	„ 19	13,92	28,65	23,80	2,50	68,87
14,55	3,14	11,80	38,78	,16	„ 26	13,96	28,33	23,71	2,44	68,43
14,55	3,11	11,05	38,70	,18	June 2	13,91	28,44	22,84	2,41	67,60
14,55	3,09	10,90	38,88	,17	„ 9	13 91	28,44	22,87	2,39	67,60
14,55	3,10	11,26	38,94	,16	„ 16	13 95	28,23	23,47	2,36	68,01
14,55	3,10	11,94	38.80	,16	„ 23	13,95	28,71	23,59	2,31	68,56
14,55	3,10	11,57	45,14	,15	„ 30	13,95	35,37	23,04	2,16	74,52
14,55	3,33	8,05	42,95	,16	July 7	13.79	30,00	22,94	2,32	69,05
14,55	3,34	7,14	43,80	,16	„ 14	13.79	29,71	23,20	2,29	68,99
14,55	3,35	7,92	42,80	,12	„ 21	13,79	29,24	23,42	2,30	68,75
14,55	3,36	7,74	42,15	,11	„ 28	13,79	28,68	23,19	2,26	67,92
14,55	3,39	7,29	41,25	,15	Aug. 4	13,78	28,55	22,05	2,24	66,62
14,55	3,39	7,00	40,51	,14	„ 11	13,78	27,40	22,07	2,34	65,60
14,55	3,41	7,76	38,81	,14	„ 18	13,22	26,48	22,60	2,36	64,67
14,55	3,41	8,30	38,17	,14	„ 25	13,22	25,96	23,10	2,29	64,58
14,55	3,74	7,86	39,12	,15	Sept. 1	13,43	27,43	22,24	2,33	65,43
14,55	3,75	7,49	39,51	,15	„ 8	13,43	27,50	22,21	2,31	65,44
14,55	3,75	7,62	40,12	,13	„ 15	13,43	27,99	22,39	2,36	66,17
14.55	3,79	8,97	39,50	,13	„ 22	13,43	29,16	21,98	2,37	66,94
14,55	3,79	8,70	38,75	,13	„ 29	13,43	29,48	20,69	2,32	65,93
14,55	3,13	8,80	40,57	,17	Oct. 6	15,76	29,89	19,36	2,22	67,23
14,55	3,14	7,18	40.53	,16	„ 13	15,26	29,38	18,71	2,21	65,56
14,55	3,15	7,31	36,32	,14	„ 20	14,06	26,27	18,86	2,28	61,47
14,55	3,16	6,62	38,28	,14	„ 27	12,72	28,58	19,17	2,28	62,76
14,55	3,15	6,76	37,11	,17	Nov. 3	12,69	28,34	18,56	2,16	61,75
14,55	3,16	6,79	36,52	,16	„ 10	12,52	27,73	18,75	2,19	61,18
14,55	3,17	7,20	37,15	,20	„ 17	12,88	27,88	19,12	2,39	62,27
14,55	3,18	7,79	36,97	,15	„ 24	12,40	27,91	19,85	2,47	62,64
14,55	3,13	7,95	36,51	,13	Dec. 1	12,68	27,78	19,37	2,46	62,20
14,55	3,14	7,62	35,92	,15	„ 8	12,73	26,80	19,53	2,32	61,38
14,55	3,15	8,03	38,72	,12	„ 15	12,94	30,11	19,42	2,10	64,57
14,55	3,16	9,37	37,15	,10	„ 22	13,02	31,27	17,91	2,12	64,33
14,55	3,17	9,40	40,24	,10	„ 29	13,02	34,54	17,81	2,10	67,47

REVENUE OF THE UNITED KINGDOM.

Net Produce in QUARTERS *and* YEARS *ended* 31*st* DEC., **1897-96-95-94**

[000's omitted.]

QUARTERS, ended 31st Dec.	1897.	1896.	1897. Less.	1897. More.	Corresponding Quarters. 1895.	Corresponding Quarters. 1894.
	£	£	£	£	£	£
Customs	6,110,*	6,151,*	41,	—	5,874,*	5,622,*
Excise	8,020,*	7,950,*	—	70,	7,920,*	7,680,*
Stamps and estate, &c., duties	4,590,*	4,580,*	—	10,	5,120,*	3,880,*
Taxes	50,	40,	—	10,	40,	25,
Post Office	3,120,	3,030,	—	90,	2,935,	2,730,
Telegraph Service	740,	715,	—	25,	705,	615,
	22,630,	22,466,	41,	205,	22,594,	20,552,
Property Tax	1,540,	1,460,	—	80,	1,390,	1,340,
	24,170,	23,926,	41,	285,	23,984,	21,892,
Crown Lands	180,	160,	—	20,	160,	160,
Interest on Advances	—	—	—	—	—	9,
Miscellaneous	464,	468,	4,	—	457,	387,
Totals	24,814,	24,554,	45,	305,	24,601,	22,448,
			NET INCR. £260,			

YEARS, ended 31st Dec.	1897.	1896.	1897. Less.	1897. More.	Corresponding Years. 1895.	Corresponding Years. 1894.
	£	£	£	£	£	£
Customs	21,660,*	21,189,*	—	471,	20,624,*	20,050,*
Excise	28,060,*	27,240,*	—	820,	26,660,*	25,980,*
Stamps and estate, &c., duties	18,110,*	18,550,*	440,	—	18,378,*	13,972,*
Taxes	2,470,	2,520,	50,	—	2,495,	2,482,
Post Office	12,050,	11,640,	—	410,	11,130,	10,570,
Telegraph Service	2,995,	2,895,	—	100,	2,765,	2,570,
	85,345,	84,034,	490,	1,801,	82,052,	75,624,
Property Tax	16,880,	16,300,	—	580,	15,972,	15,628,
	102,225,	100,334,	490,	2,381,	98,024,	91,252,
Crown Lands	435,	415,	—	20,	410,	420,
Interest on Advances	697,	710,	13,	—	690,	134,
Miscellaneous	1,993,	1,799,	—	194,	1,630,	2,197,
Totals	105,350,	103,258,	503,	2,595,	100,754,	94,003,
			NET INCR. £2,092,			

* Exclusive of transfers to local taxation account.

LONDON CLEARING; CIRCULATION, PRIVATE AND PROVINCIAL.

The London Clearing, and the Average Amount of Promissory Notes in Circulation in ENGLAND *and* WALES *on Saturday in each Week during the Year* **1897**; *and in* SCOTLAND *and* IRELAND, *at the Dates, as under.*

[0,000's omitted.]

ENGLAND AND WALES.					SCOTLAND.				IRELAND.		
DATES. *Saturday.*	*London:* Cleared in each Week on the preceding *Wednesday.*	Private Banks. (Fixed Issues, Dec., 1,37).	Joint Stock Banks. (Fixed Issues, Dec., 1,76).	TOTAL. (Fixed Issues, Dec., 3,14).	Average for Four Weeks ending	£5 and upwards	Under £5.	TOTAL. (Fixed Issues, Dec., 2,68).	£5 and upwards	Under £5.	TOTAL. (Fixed Issues, Dec., 6,36).
1897.	£	£	£	£	1896.	£	£	£	£	£	£
					Dec. 26...	2,37	5,11	7,48	3,62	2,79	6,41
Jan. 2.....	132,44	45	1,00	1,45							
„ 9.....	174,38	46	1,02	1,48							
„ 16.....	127,32	45	1,01	1,46	1897.						
„ 23.....	156,20	44	99	1,43	Jan. 23...	2,19	4,76	6,95	3,48	2,68	6,17
„ 30.....	118,67	44	98	1,42							
Feb. 6.....	174,50	44	98	1,42							
„ 13.....	129,21	43	98	1,41							
„ 20.....	162,17	43	97	1,40	Feb. 20...	2,08	4,62	6,70	3,47	2,62	6,08
„ 27.....	131,78	42	98	1,40							
Mar. 6.....	177,85	43	99	1,42							
„ 13.....	126,18	43	99	1,42							
„ 20.....	148,94	43	99	1,42	Mar. 20...	2,06	4,65	6,71	3,50	2,56	6,06
„ 27.....	118,58	44	1,01	1,45							
April 3.....	158,42	47	1,05	1,51							
„ 10.....	147,79	47	1,07	1,53							
„ 17.....	154,10	46	1,06	1,52	April 17...	2,11	4,81	6,92	3,67	2,65	6,33
„ 24.....	92,33	46	1,05	1,51							
May 1.....	138,29	46	1,07	1,52							
„ 8.....	138,99	46	1,08	1,54							
„ 15.....	128,25	46	1,08	1,55	May 15...	2,40	5,16	7,56	3,74	2,64	6,38
„ 22.....	152,99	46	1,06	1,52							
„ 29.....	116,37	45	1,05	1,50							
June 5.....	166,98	45	1,05	1,50							
„ 12.....	111,21	43	1,01	1,44	June 12...	2,63	5,25	7,88	3,48	2,53	6,01
„ 19.....	148,40	43	99	1,41							
„ 26.....	102,45	42	98	1,40							
July 3.....	165,90	44	99	1,43							
„ 10.....	166,11	44	97	1,41	July 10...	2,36	5,10	7,46	3,37	2,49	5,86
„ 17.....	122,91	43	95	1,38							
„ 24.....	155,00	42	91	1,33							
„ 31.....	118,84	42	91	1,33							
Aug. 7.....	146,67	41	91	1,32	Aug. 7...	2,26	5,07	7,34	3,44	2,46	5,90
„ 14.....	135,72	40	90	1,30							
„ 21.....	171,73	40	89	1,28							
„ 28.....	123,78	39	88	1,27							
Sept. 4.....	164,14	39	89	1,28	Sept. 4...	2,24	5,02	7,26	3,35	2,51	5,86
„ 11.....	117,35	39	89	1,28							
„ 18.....	139,13	40	89	1,29							
„ 25.....	126,13	40	91	1,31							
Oct. 2.....	116,42	43	95	1,39	Oct. 2...	2,21	5,06	7,27	3,50	2,66	6,16
„ 9.....	189,25	44	99	1,43							
„ 16.....	126,37	44	99	1,44							
„ 23.....	176,30	44	99	1,43							
„ 30.....	133,11	44	99	1,43	„ 30...	2,28	5,16	7,45	3,96	2,87	6,83
Nov. 6.....	176,28	45	1,01	1,46							
„ 13.....	138,12	44	1,02	1,47							
„ 20.....	166,29	44	1,03	1,47							
„ 27.....	128,51	45	1,03	1,48	Nov. 27...	2,63	5,39	8,03	3,95	2,88	6,84
Dec. 4.....	171,79	45	1,02	1,46							
„ 11.....	136,09	44	1,00	1,44							
„ 18.....	161,48	43	98	1,42							
„ 25.....	155,43	44	98	1,42	Dec. 25...	2,49	5,19	7,67	3,67	2,80	6,47

FOREIGN EXCHANGES.—*Quotations as under,* LONDON *on Paris, Hamburg, Calcutta;—and New York and Hong Kong, on* LONDON, *for* **1897.**

1	2	3	4	5	6	7	8	9
			Calcutta.				Price per Ounce.	
DATES. (Tuesdays and nearest Dates).	London on Paris. 3 m. d.	London on Hamburg. 3 m. d.	London on Calcutta.	Indian Council Bills. Minimum Price per Rupee.*	New York on London. 60 d. s.†	Hong Kong on London. 4 m. d.‡	Gold Bars (Fine).	Standard Silver in Bars.
1897.			*s. d.*	*s. d.*	Per cent.	*s. d.*	*s. d.*	*d.*
Jan. 5	25·36¼	20·60	1 3⅛	1 3 5/16	4·84¼	2 1⅝	77 10¾	29¾
„ 19	25·36¼	20·59	1 2 15/16	1 3	4·84¾	2 1⅝	77 10½	29 11/16
Feb. 2	25·33¾	20·56	1 3 3/16	1 3 9/32	4·84¾	2 1½	77 10½	29 11/16
„ 16	25·32½	20·58	1 3⅜	1 3 1/16	4·85	2 1⅜	77 10½	29 11/16
Mar. 2	25·31¼	20·57	1 2 15/16	—	4·85¼	2 –⅝	77 10	29 7/16
„ 16	25·30	20·56	1 2⅝	1 3	4·85½	2 –¼	77 9½	28⅝
„ 30	25·27½	20·55	1 3	1 3 1/32	4·85¾	2 –¼	77 10¼	28 7/16
Apl. 13	25·26¼	20·53	1 2 15/16	1 3	4·86	2 –⅜	77 11½	28½
„ 27	25·25	20·52	1 2 15/16	1 3	4·86¾	2 –¼	77 11½	28 5/16
May 11	25·25	20·52	1 2½	1 2 9/16	4·86½	2 –	77 11	27 11/16
„ 25	25·23¾	20·52	1 2⅜	1 2 5/16	4·86	1 11⅞	77 11½	27¼
June 8	25·23¾	20·51	1 2½	1 2 9/16	4·86¼	1 11⅞	77 11½	27⅜
„ 21	25·25	20·52	1 2 9/16	1 2 7/32	4·86¼	1 11⅞	77 11½	27 9/16
July 6	25·23¾	20·51	1 2 13/16	1 2 13/16	4·86	1 11¾	77 11¼	27 9/16
„ 20	25·23¾	20·50	1 3 1/8	1 3 1/8	4·86¼	1 11⅜	77 11⅜	27 9/16
Aug. 3....	25·23¾	20·50	1 2 15/16	1 3 3/16	4·86	1 10⅜	77 11⅜	26½
„ 17	25·31¼	20·55	1 3 7/16	1 3 9/16	4·83¾	1 9¾	77 11	25 1/16
„ 31	25·31¼	20·55	1 3⅝	1 3 13/16	4·83½	1 9½	77 11¼	24
Sept. 14	25·33¾	20·58	1 3⅞	—	4·82¾	1 10⅜	77 11½	26⅛
„ 28	25·33¾	20·58	1 3½	—	4·82½	1 10¼	77 11½	25½
Oct. 12	25·32½	20·59	1 3½	—	4·82⅛	1 11⅛	77 11	26⅜
„ 26	25·32½	20·59	1 3½	—	4·82¼	1 11½	77 11¾	27⅛
Nov. 9	25·31¼	20·59	1 3 9/16	—	4·82¼	1 10⅞	78 –	26¾
„ 23	25·33¾	20·60	1 3 5/16	—	4·82¼	1 11½	77 11¾	27⅛
Dec. 7	25·38¾	20·63	1 2 15/16	—	4·82¾	1 11⅝	77 11½	27¾
„ 21	25·38¾	20·62	1 3⅜	1 3 19/32	4·81¾	1 11⅜	78 –	26 7/16

* Wednesdays following. † Thursdays following. ‡ Fridays following.

Vol. LXI.] [Part II.

JOURNAL

OF THE ROYAL STATISTICAL SOCIETY,

JUNE, 1898.

The Collection *and* Utilisation *of* Official Statistics *bearing on the* Extent *and* Effects *of the* Industrial Employment *of* Women. *By* Clara E. Collet, M.A.

[Read before the Royal Statistical Society, 15th March, 1898.
The President, The Right Hon. Leonard H. Courtney, M.P., in the Chair.]

Any attempt to measure the extent of the industrial employment of women must, so far as official statistics are concerned, be based almost exclusively on the returns of occupations obtained every ten years by the Census Office. The approach not only of a new census, but of the first centenary of the English Census, makes it desirable to overhaul this statistical material with greater attention to its defects than can be given on its publication, when naturally the value of the information supplied to us is more obvious than the absence of facts which might be, but never have been given us.

It is, however, not only in order to secure reforms in methods of collecting and using statistical data that a critical examination of the census returns is required; every would-be reformer has to be on guard against the encroachments of other reformers, and so much is this the case with the census, that it would hardly be unfair to insist that any change proposed to be made by the census authorities involving the loss of any information hitherto supplied by them, should only be allowed after due notice to the nation, and after consideration of objections lodged against such action.

In examining the census statistics of the employment of women, this side of the question is especially worthy of attention. I venture to think that in this branch at least the census authorities, unlike most compilers of statistics, unduly depreciate the value of the returns published by them, and that because in some respects the returns for women are notoriously more inaccurate than those for men, they are inclined to assume that this greater defectiveness must be even more pronounced in the sections in which the returns for men are admittedly weak.

In this connection, therefore, it may be useful to consider how far, if at all, the returns for women with regard to

(1.) Age,
(2.) Occupation,
(3.) Employers and Employed,

are misleading, bearing in mind that returns may be positively defective but relatively correct.

(I.) *Age.*—The inaccuracy in the age returns of women is illustrated in the Census Report by the following table, showing the exaggerated numbers returned as being of 20 and under 25 years of age :—

Col. ...	1	2	3	4
Date of Census.	Girls enumerated as 10 and under 15 Years of Age at each Census.	Women enumerated as 20 and under 25 Years of Age, Ten Years later.	Calculated Survivors of the Girls in Col. 1, Ten Years later, on the basis of the last English Life Table.	Excess per Cent. of the Enumerated over Calculated Survivors in Col. 3.
1841	851,736	871,152	812,408	7·2
'51	949,362	969,283	905,526	7·0
'61	1,045,287	1,052,843	997,022	5·6
'71	1,203,469	1,215,872	1,147,900	5·9
'81	1,398,101	1,399,066	1,333,445	4·9

Whether the life table be correct or not, mis-statement of age at one or other of the age periods is obvious, by the fact that there are more returned as between 20 and 25 than were actually living ten years before between 10 and 15 years of age.

It is pointed out in the Census Report, and shown in the above table, that the error is diminishing; the question of whether it has been transferred to a later age period is not considered. Incorrect returns of this kind are all the more mischievous, that greater truthfulness in the next census results in greater relative error. The error is lessened by treating age returns in decennial groups. But it is not usually sufficiently emphasised that this age error does not affect all classes of returns equally.

Only a small proportion of women directly fill in their own census returns; in the great majority of cases they are filled in by their fathers or husbands or employers. The only reason for misstatement of the ages of children by their fathers is the desire to escape the operation of the Education Acts and the Factory Acts, and would probably affect the returns for boys and girls about equally. The age limits, however, fortunately from a statistical point of view, allow of some misstatement of age without any error in the quinquennial grouping of age, although error would occur where the ages of the elder children had to be raised to

leave room for the younger ones above the prescribed age limit. Such misstatement would affect districts in which half-timers were much in request. The attemps to evade the Factory Acts in this respect are much rarer now than twenty or thirty years ago.

The age returns of wives would often be incorrect in cases where the wife was much older than the husband. But in working class circles, where comparatively early marriages are common, little importance is attached to a few years' difference on either side, and I doubt whether there is much objection to give the correct age.

The returns filled in by employers will be much less accurate. Domestic servants and shop assistants are the groups whose age returns will probably be the most inaccurate. The child of 14 will be called 15, and the girl of 19 will call herself 20, and both will appear in their wrong quinquennial groups. Both domestic servants and shop assistants have an interest in not seeming to be middle aged. But ideas as to what constitutes middle age change. The class of persons who, twenty years ago, were afraid of admitting themselves to be 25 years of age, would probably at the present time be content with remaining under 30, and this extension in the period of youth is probably the principal explanation of the diminution of error in the returns shown in the preceding table.

The greatest age error will probably be found in the returns of a not very important class, namely, middle class unmarried women in boarding houses and hotels, where the form is filled in by the proprietor.

With the exception of domestic servants, therefore, I doubt whether the age returns of any large section of wage earning women are to any great extent vitiated by wilful misstatement.

(2.) "The most laborious, the most costly, and, after all, perhaps the least satisfactory part of the census, is that which is concerned with the occupations of the people." This is the opinion expressed in the Census Report for 1881, and so far as the classification of men's occupations is concerned it is no doubt true. The difficulties in the way of correct classification of men's occupations under the 349 headings given in the Census Report are insuperable. If the occupation of every man and boy were given quite correctly and definitely in the schedules, it would still be no easy task to draw the line that separates group from group. The classification of women's occupations is simplicity itself in comparison. Of the occupied women and girls, 28 out of every 34 are grouped under one or other of eighteen headings, and there is very little doubt as to the groups to which each should be assigned; the other 6 are distributed among the remaining 331 headings,

none of them including so many as 1 per cent. of women and girls occupied. Half the occupied women and girls are grouped under three headings. Although the system of classification of women's occupations might in some respects be improved, it introduces little error into the result, a statement which could not safely be made with regard to the classification of men's occupations.

Whether any considerable error is to be found in the women's occupation returns through misstatement, may perhaps be decided by a study of the tables of occupations of women and girls given in the appendix, for the years 1851, 1861, 1871, 1881, and 1891, the section showing the increase or decrease relatively to the female population above 10 years of age being the most important.

In the summary of these returns given below, a great increase in the employment of women in 1861 is apparent, and a still greater decrease in 1881 which cannot be accounted for merely by the exclusion of women returned as "retired."

Table showing for England and Wales the Number of Women and Girls Occupied per 10,000 *Living at each Age-Period.*

Year.	10* and under 15.	15 and under 25.	25 and under 45.	45 and under 65.	65 and Upwards.	10 Years* and Upwards.
1851....	2,148	5,652	3,078	2,639	2,250	3,466
'61....	2,146	5,936	3,168	2,795	2,520	3,608
'71....	2,120	6,123	3,155	2,927	2,593	3,658
'81....	1,506	6,214†	2,900†	2,608†	1,828†	3,405†
'91....	1,626	6,336	2,960	2,497	1,598	3,442
	Increase of Women and Girls Occupied per 10,000 *Living at each Age-Period on Previous Decade.*					
1861....	− 2	+ 284	+ 90	+ 156	+ 270	+ 142
'71....	− 26	+ 187	− 13	+ 132	+ 73	+ 50
'81....	− 614	+ 91†	− 255†	− 319†	− 765†	− 253†
'91....	+ 120	+ 122	+ 60	− 111	− 230	+ 37
	Women and Girls returned as Retired, per 10,000, *at each Age-Period.*					
1891....	....	5	23	100	470	60

* Children under 10 years returned as occupied are included here.

† In 1881 persons returned as "retired" from specified occupations were no longer included as hitherto among the occupied, but there is no means of estimating what proportion of the decline was due to this change in classification, other than that afforded by the returns of those "retired" given in the 1891 census.

Dealing with the 1861 returns first at the different age-periods, it will be observed that the proportion of indoor domestic servants increased at every age-period. At the same time, however, there is a diminution of "inn and hotel" servants, and of agricultural or farm servants. Between 15 and 25 the increase of domestic servants is greater than the decrease of inn and farm servants; between 25 and 45 the increase in domestic servants is less than the decrease in these two branches; after 45 it is greater. In every 10,000 women and girls above 10 years of age, 155 more were returned as indoor domestic servants in 1861 as compared with 1851, and 118 less as inn or farm servants.

The decline amongst the inn servants must have been largely due to the greater use of railways, the period between 1851 and 1861 being the one when the change from the old system to the new was most keenly felt. But this period saw also another great change, viz., the change in the woollen trades brought about by the use of the power loom and the breakdown of the domestic system of weaving. In 1850, according to the Factory Returns, there were only 9,170 power looms in woollen factories in England and Wales, and 32,617 in worsted factories. In 1856 there were 13,726 power looms in woollen factories, and 38,809 power looms in worsted factories. In 1861-62 there were 20,344 power looms in woollen factories, and 42,968 power looms in worsted factories. The effect of the change as shown in the census returns is an increased employment of women and girls between the ages of 15 and 45, and a decrease in employment at other age-periods in the woollen industry, and a decrease at every age-period in the worsted industry. The diminution in the woollen trade is however by no means accurately measured by the census returns. The hand loom weaver was very largely dependent on the help of his wife and children; and the wife who assisted her husband frequently did not return herself as occupied. The number of women occupied was therefore considerably understated in 1851. With the decay of the domestic system came the necessity for the wife to become a wage earner working for other employers than her husband, and in this capacity her occupation was much more likely to be entered in the census return.

The increase in the employment of women shown in the 1861 returns is probably therefore partly due to under statement in 1851, but also very largely to the impetus given to trade by the adoption of free trade, the opening up of railroads, and the development of the factory system, resulting in a more effective demand on the part of the nation to be washed, clothed, taught, and served.

In 1871 the proportion of employed women and girls between 15 and 25 years of age increased, but between 25 and 45

diminished very slightly. The event of the period 1861-71 was the introduction of the sewing machine into common use. If we look at the table of occupations for the age-period 15 to 25, it will be noticed that the proportion of domestic servants again shows an increase; the cotton industry shows a decrease, and it is well known that during the Cotton Famine at the beginning of this period, many girls withdrew from the trade and went into domestic service. Dressmaking, plain needlework, and boot and shoe making appear to have diminished, but the "machinist, undefined," shows a large increase, although not equal numerically to the decrease in these three branches. It must be remembered that whenever work can be done by hand and at home, a large number of the women engaged in it are merely casual workers. This was the case in these trades, and these casual workers could not compete with the machinists who, being engaged on a machine involving outlay of capital, would from the first be expected to give regular work. The younger women naturally took to the machine more readily. Many of the older women returned as occupied, would perhaps have been more correctly described as "wanting work."

The decline in agricultural service continued, and the decay of the silk industry became more marked in consequence of the repeal of the silk duties in 1860.

For the decline in the proportion engaged in "washing and bathing service," which appears at every age-period in this census, I have no trustworthy explanation to offer. It would appear, however, that between 1851 and 1871 there was an unusual supply of domestic servants, probably due to the diminishing facilities for earning money at home, and it may be therefore that washing was done at home without so much outside assistance as before. The decline in the two subsequent decades is explained by the figures, which show that young women between 15 and 25 working full time in steam and other large laundries, displaced the elderly and casual washerwoman.

In the Census Report for 1871 the increase in the proportion returned as domestic servants is ascribed to a different cause: "Wives and daughters at home do now less domestic work than "their predecessors, hence the excessive demand for female "servants and the consequent rise of wages." To form any judgment between the correctness of this view, that increased demand raised wages and therefore increased supply, and the one that I have put forward, that diminished opportunities for remunerative or economical work at home resulted in a larger number of young women going into domestic service, particulars are necessary that at present are not forthcoming. One point on

which it would be most instructive to have accurate information is the wages question: did the wages of domestic servants rise, fall, or remain stationary during the period 1851 to 1871? If they rose continuously the view expressed in the Census Report is no doubt correct. If they remained stationary, presumably both causes, greater wealth among the upper classes, fewer opportunities for home work in the working classes, were operating. My own belief is that if at any period in this century mistresses have admitted a fall in the wages of domestic servants, such an admission must be looked for in the records of this period 1851-71.

The returns for 1881 are what it is the fashion of the day to call startling: making all allowance for the exclusion of the "retired" from business, it is obvious that at every age-period except the period 15—25 there was a marked decline in the employment of women.

The operation of the Education Act is of course the explanation of the great decline in the number of children returned as occupied. The extended use of the sewing machine run by steam power in the factory, and the demand for girls to be trained as elementary teachers, are responsible for the greater part of the increased employment of women and girls between 15—25, and for much of the decline of employment of elderly women. But the decline in domestic service is even more marked at the later age-periods than between 15 and 25. The casual washerwoman and needlewoman, and the uneducated teacher found their occupation gone, but a smaller proportion of young women entered domestic service; their places were not taken by the older women, the proportion at every age-period above 25 being less than that in 1851; more were returned as charwomen and nurses, but the increase here is slight compared with the decrease under domestic service.

The changes in 1891 have been dealt with rather fully in the Labour Department report on the statistics of employment of women and girls, and therefore need not be discussed here. Passing the whole period 1851-91 under review, we find that the proportion of women and girls under 25 returned as in-door domestic servants increased until 1871, and declined in 1881 and 1891; at the age-periods over 25 there was an increase at every census except in 1881. It must be remembered that a large proportion of those who returned themselves as "retired," would probably have been domestic servants; but even if they had all been domestic servants, the decline would not be explained.

In the clothing trades there has been increased employment for women working full time in the factory and workshop; the plain needleworker is being eliminated.

The cotton trade since 1861 has employed a diminishing pro-

portion of the female population above 10, and the woollen and worsted trades a smaller proportion since 1871. The silk trade has steadily declined numerically as well as proportionally.

The proportion engaged in farm and agricultural work has fallen from 207 per 10,000 women and girls above 10 years of age in 1851, to 21 per 10,000 in 1891.

The decline in inn service shown in 1861, and here attributed to the discontinuance of stage coach travelling, was only temporary. Rightly or wrongly, the waitress at the restaurant is included under this heading, and with the growth of towns and the separation of the home from the place of business, there has been a great increase in the demand for this class of service. The professional lodging house keeper is also more in demand.

While admitting that the census in many cases affords a very rough measure of the extent of the employment of women, the examination of these tables convinces me that the changes in their employment are correctly indicated, and that tendencies which might otherwise have passed unnoticed are brought to light by its means.

(3.) *Employers and Employed.*—In the report for 1891 the census authorities conclude their criticisms of this return as follows :—"Although, therefore, we have not considered ourselves "justified, after the instructions given to us by the Local Govern- "ment Board, altogether to discard the statements as to employers "and employed from the census volumes, we hold them to be "excessively untrustworthy, and shall make no use whatsoever of "them in our remarks."

The applicability of this statement to the returns of men's occupations I need not consider, but there is a reason for not allowing it to pass unchallenged so far as concerns the returns of women's occupations. Except by a return of this kind we have no means at all of judging of the numbers of women and girls likely to be affected by protective legislation, or of estimating the success of the Factory Department in covering the area actually under the operation of the Factory Acts. At the present moment no one outside the Home Office, and in 1895 no one inside it, could possibly do more than guess at the number of laundresses who would come under the Act of that year, and the number who would escape its provisions by being neither employer nor employed, nor does the census give us any returns on the subject, correct or otherwise.

In Table II of the appendix the returns of women and girls employed in 1895 in factories and workshops in the more important trades, are placed side by side with the corresponding census returns for 1891. In the cotton, woollen and worsted, and

glass and earthenware trades there are no great discrepancies that could not be sufficiently explained by changes in the trade between 1891 and 1895, and by the inclusion in the census returns of persons returned as occupied but not actually employed.

In the other branches there is great discrepancy, and we must look at the returns of employers and employed for explanation.

The only industries in which any considerable number of women are returned as employers, are those in which it is well known a large number of women *are* employers. In the factory industries but few are returned, and these would in several cases be widows owning the business bequeathed to them, and employing others to manage it for them. The number of women returned as employers in tailoring, and hat and cap making, does not appear excessive, when it is remembered that in branches of these trades women are frequently sub-contractors, and shops for the sale of the goods are included.

The really important section is that relating to the numbers engaged in the dressmaking, millinery, mantle and corset making trades. The census returns give us three times as many returned as occupied in these trades as the factory returns give as employed in factories and workshops. Has the Factory Department therefore completely failed to find the employers in these trades? The returns of employers and employed show conclusively that there has been no such failure, but at the same time show the need for a clearer definition of the term "em-" ployed." The number returned under this heading, after the 137,000 working on their own account, and the 34,000 who made no statement, have been removed from the total, is still 89,000 above the numbers in the factory return. But notwithstanding this, the number of employers corresponds very fairly with the number of establishments under inspection. The census of 1891 has 1,041 men, and 21,918 women returned as employers in these trades, 22,959 in all; and the factory return for 1895 includes 175 factories, 20,765 workshops from which returns were received, and 539 from which returns had not come back, 21,479 establishments in all. The average number of women and girls in the factory return is about 6 to every establishment under inspection. The proportion of "employed" women and girls in the census is about 10 to every employer. If the census returns were exact, this would mean that the Factory Department had routed out the small workshops and passed over the large ones. That there are still 2,000 or 3,000 workshops in these trades which have escaped the notice of the inspector is probable, but the total number employed in such workshops would be small, and would leave over 70,000 "employed" women and girls to be accounted for.

The explanation is simple enough. Persons working at their own homes on work given out to them have returned themselves as employed. Others in the same position have returned themselves as working on their own account. Dressmakers working by the day at private houses would return themselves as employed also, although they would not come within the jurisdiction of the factory inspector. The same explanation accounts for the excess in the census returns under the tailoring and shirt and linen collar sections.

If there is error in the returns of women as employers, it would seem to be on the side of under statement, not over statement as in the case of men.

On the whole therefore the returns of the occupations of women seem to me more accurate as presented to us in the census reports than the corresponding returns for men, and to justify a request that the census authorities should make more use of the materials in their possession than they at present do.

The very important question of better classification is one that I cannot refrain from discussing, although all criticism offered in ignorance of the technicalities of compilation must be very wide of the mark. The difficulties of tabulation may be an insuperable obstacle in the way of obtaining guidance as to the possible effects of some legislative measure. It is apparently less expensive to pass an Act and find by experience who come under its operations, than to collect and present statistics in such a form that the probable numbers affected may be estimated beforehand.

The principles on which classification should be framed must of course depend on the objects of special inquiry into women's employments. Although returns of women's employment are useful and necessary in any attempt to measure changes in trade, this purpose is the least important of those which such returns might serve. The *conditions* under which women work are perhaps what we need to know most. And changes in the employment of married women, and more especially of married women in factories, if recorded statistically, may throw much light on the general social progress of the nation.

Women working for wages may be:—

(1.) Living and working in their own homes or lodgings for an outside employer.

(2.) Living in their own homes or lodgings, and working on the premises of an employer.

(3.) Living on premises provided by an employer, and working in shops or workrooms of the employer.

(4.) Living in the home of an employer, and working in the home of the employer.

All legislation must or ought to take into account the great differences in the circumstances under which these classes work; and I suggest that so far as possible the census classification should be adapted to giving information on these points. Thus, waitresses in tea rooms or refreshment-rooms of hotels, who go home when their work is done, should not be grouped indiscriminately with hotel servants and barmaids who sleep on their employers' premises. It is quite easy to gather from the census schedule to which class the worker belongs with approximate accuracy. The division of laundresses into the different groups to which they belong could be effected by an instruction that those working by themselves at home or in the houses of private persons should be described as working on their own account.

At the present moment there is a demand for legislation as to the hours of shop assistants, but the census offers little aid to anyone who wishes to know how many persons come under this designation.

Greater subdivision would of course introduce a greater element of doubt as to the assignment of particular cases to one or other of the smaller groups, but provided the parts together make up the whole given in previous census reports, no error is introduced, and some idea of relative proportions is obtained.

But the greatest defect of the census is the absence of any attempt to classify separately the returns as to the occupations of married women. In 1871 it was agreed that this classification should be made, but in the course of tabulation the task was abandoned as too difficult—in other words, as not worth the trouble and expense.

This judgment may be correct. With a view to obtaining the opinion of the Society on the matter, I have prepared some samples of the kind of information which might be furnished on this head, and the use to which it might be put.

In the Labour Department Report on the Statistics of the Employment of Women and Girls, it was shown that the returns for 1891 pointed to a diminution in the employment of married women and widows in the decade 1881-91. The figures for 1881 suggest a similar decline between 1871 and 1881. The original cause and object of what is called the "woman movement" has been much misunderstood, and this diminution in the employment of women in 1881, and of elderly women in 1891, has caused some surprise. Most of the younger generation seem to think that women have been demanding as a novelty to be allowed to work. The movement really received its impetus from the recognition that a large proportion of women had at some time or other to try to earn money, and the object of the movement was to obtain for women

training and admittance to remunerative work when young, instead of leaving them to enter the labour market as elderly and inefficient beggars for work. Although there is no doubt that there was in certain branches considerable under statement of employment of women in 1851, the census report for that year contains the following statement: "Thus, Great Britain contained "3,461,524 wives, of whom 830,141 (or *one* in *four*) were engaged "in some extraneous occupation; and 795,590 widows, of whom "505,938 (or *two* in *three*) were referred to occupations in other "classes." The occupied wives probably included wives of shopkeepers, who were separately classified in that year. But two-thirds of the women who survived their husbands were definitely returned as trying to earn money.

The connection between the employment of women and infant mortality is one which has been more or less frequently discussed in this Society, and it is from the discussion on Dr. Jones's paper on "The Perils and Protection of Infant Life" that I have taken my text. During that discussion Mr. Noel Humphreys said that "with regard to the influence of female occupation upon infant "mortality—a subject of which the importance could scarcely be "over rated—he thought that this question had been pre-judged "without sufficient evidence. It was well known that the infant "death-rate was high in Lancashire and the West Riding of "Yorkshire, where many women were employed in the factories, "and also that it was low in rural districts, where there was much "less female occupation. He was quite prepared to believe that "factory employment of married women must be injurious to the "health of their children; still, statistics did not entirely support "the assertion that factory employment was the main cause of "infant mortality in Lancashire. In Durham and South Wales, "both mining districts, where females were consequently not "much engaged in industrial occupations, the infant mortality "was higher than in the West Riding of Yorkshire. Again, the "gradual increase in the number of premature births had been "attributed to the increasing employment of women; but the "death-rate from premature births was higher in Norfolk and "Suffolk than in Lancashire and the West Riding of Yorkshire, "where the industrial employment of women had reached its "highest development: 37 to 43 per cent. of the women in the "two latter counties were engaged in some occupation, against "only 20 per cent. in Norfolk and Suffolk. Of course it was "impossible to say that premature births and the employment of "females were *not* connected, but the question required fuller and "more careful investigation. His own inquiries led him to the "belief that overcrowding and other general insanitary conditions

"had a much greater influence on the rate of infant mortality "than female occupation, and he hoped that some reliable statistics "might shortly be prepared in order to throw more light on this "important question."

The table quoted by Dr. Jones as indicating that "an associa- "tion exists between the general employment of women in "industrial occupations and a high rate of infant mortality" was as follows:—

ENGLAND. *Groups of Towns*, 1871-80.

Groups of Towns.	Population.	Rate of Infant Mortality.	Diarrhœa Death-Rate.
1. Over 15 per cent. women workers	2,645,357	175	36
2. 10—15 „ „	1,500,954	171	37
3. Less than 10 per cent. „	1,127,010	154	32

It is not clear whether the term "per cent. women workers" means percentage of women above a certain age who were occupied, or percentage of total female population who were occupied. So also it is not stated whether the census of 1871 or that for 1881 was used in calculating the percentage of women employed. Instead, therefore, of analysing this table I have worked out one based on the percentage of the female population above 10 years returned as occupied in 1891, and have calculated the infant mortality for the five years 1889-93 of the twenty-seven large towns for which (together with London) returns were published.

It will be seen here that when the infant mortality is calculated for the towns collectively the correspondence is almost unbroken; but that when each town is treated as of equal importance and the mean of the rates taken, the sequence is disturbed. The element of evils prevalent in very large towns is introduced in the first case and combined with employment. On the whole, however, in both cases there seems to be a kind of correspondence between employment of women and girls and infant mortality.

But is this a relation of cause and effect? When it is remembered that no account is here taken of kind of employment or conditions of work, of whether the majority employed are married or single, well paid or ill paid, we may well hesitate to come to such a conclusion on such slight evidence.

Table showing the Rate of Infant Mortality for the Five Years 1889-93, *in Twenty-Seven Urban Sanitary Districts, grouped according to the Percentage of the Female Population above* 10 *Years of Age returned as Occupied in* 1891.

Percentage of Females above 10 Years returned as Occupied in 1891.	Large Towns.	Births, 1889-93.	Deaths of Infants under 1 Year, 1889-93.	Deaths of Infants in 1,000 Births, 1889-93.*	Mean of Rates of Infant Mortality in the Different Towns, 1889-93.†
60 and upwards	Blackburn	20,016	4,137	207	207
55 and under 60	Preston	19,274	4,695	244	244
50 „ 55	—	—	—	—	—
45 „ 50	Bradford, Bolton, Leicester, Oldham, Halifax, and Nottingham	139,259	25,232	181	181
40 „ 45	Manchester, Huddersfield, Brighton, Norwich, Birmingham, Bristol, and Salford	264,375	46,683	177	171
35 „ 40	Leeds	61,479	11,071	180	180
30 „ 35	Plymouth, Liverpool, Derby, Portsmouth, and Birkenhead	157,221	27,888	177	165
25 „ 30	Wolverhampton, Sheffield, Newcastle, Hull, and Cardiff	161,689	28,355	175	175
Under 25	Sunderland	24,374	4,257	175	175

* In this column the rate of infant mortality in each *group* of towns has been given.

† In this column the mean of the rates of infant mortality in each town in the group has been given.

In the following table it will be seen that there is another circumstance which is more closely connected with the rates of infant mortality than the industrial employment of the female population. The proportion of the female population above 10 years of age returned as in-door domestic servants is the basis of classification chosen.

There it is seen that, except in the third group, the two ways of calculating infant mortality come to much the same thing, and that in both cases the lower the percentage of domestic servants, the higher the rate of infant mortality.

Again, if in the previous table the percentage of indoor domestic servants in each group and the average of the percentages of each town of the group be given, it is seen that the correspondence between the infant mortality rates and the percentages of

domestic servants is more complete than that between infant mortality rates and the percentages of women and girls employed.

Table showing the Rate of Infant Mortality during the Five Years 1889-93, *in Twenty-Seven Urban Sanitary Districts, grouped according to the Percentage of the Female Population returned as In-door Domestic Servants in* 1891.

Percentage of Females above 10 Years returned as In-door Servants in 1891.	Large Towns.	Births, 1889-93.	Deaths of Infants, 1889-93.	Deaths of Infants in 1,000 Births, 1889-93.	Mean of Rates of Infant Mortality of the Different Towns, 1889-93.
13 and upwards	Brighton, Birkenhead, and Bristol	64,958	9,951	153	155
11 or 12					
9 or 10	Plymouth, Newcastle, Portsmouth, and Cardiff	92,679	14,907	161	160
7 or 8	Norwich, Liverpool, Derby, Wolverhampton, Hull, Sunderland, and Sheffield	249,905	45,569	182	177
Under 7	Nottingham, Manchester, Leicester, Huddersfield, Birmingham, Salford, and Leeds	319,852	58,660	183	182
	Preston, Bradford, Blackburn, Bolton, Halifax, Oldham	120,293	23,231	193	193

The percentage of women and girls returned as domestic servants affords the best measure of the servant keeping class in a town, and these tables show clearly that the smaller the proportion of this class in a town, the higher the rate of infant mortality. There is a connection shown between small means and infant mortality, and between small means and the employment of women, but the latter relationship is not so close as the former, owing mainly to the migration of women to the wealthier districts as domestic servants.

But although the employment of women and girls generally appears to a great extent to be the result of the same cause as infant mortality, and not the cause of it, it may be urged that the employment of *married* women is at the root of the differences in infant mortality rates.

Table showing the Rate of Infantile Mortality during the Five Years 1889-93, *and the Percentage of the Female Population above* 10 *Years of Age returned as In-door Domestic Servants in* 1891, *in Twenty-Seven Urban Sanitary Districts, grouped according to the Percentage of the Female Population above* 10 *Years of Age returned as Occupied in* 1891.

Percentage of Females above 10 Years returned as Occupied in 1891.	Large Towns.	Deaths of Infants to 1,000 Births, 1889-93.	Mean of Rates of Infant Mortality in Towns, 1889-93.	Percentage of Females above 10 returned as In-door Domestic Servants, 1891.*	Mean of Percentages of Domestic Servants in Towns.†
60 and upwards	Blackburn	207	207	5	5
55 and under 60	Preston	244	244	6	6
45 „ 50	Bradford, Bolton, Leicester, Oldham, Halifax, and Nottingham	181	181	6	6
40 „ 45	Manchester, Huddersfield, Brighton, Norwich, Birmingham, Bristol, and Salford	177	171	9	10
35 „ 40	Leeds	180	180	7	7
30 „ 35	Plymouth, Liverpool, Derby, Portsmouth, and Birkenhead	177	165	11	12
25 „ 30	Wolverhampton, Sheffield, Newcastle, Hull, and Cardiff	175	175	10	10
Under 25	Sunderland	175	175	10	10

* In this column the percentage returned as domestic servants in the whole *group* of towns is given.

† In this column the mean of the percentages returned as domestic servants in each town in the group is given.

The census volumes contain no separate returns of employment of married women, and the only method of estimating differences in the extent to which married women are employed is that adopted in the Labour Department Report, of comparing the excess of occupied women over unmarried women between 25 and 45 years of age. This excess gives the minimum number of married women and widows employed at that age-period, and the minimum percentage of wives and widows occupied can be obtained. By these means we can classify towns to some extent according to employment of married women.

Table showing the Rate of Infant Mortality for the Five Years 1889-93, *in Twenty-Seven Urban Sanitary Districts, grouped according to the Minimum Percentage of Wives and Widows between* 25 *and* 45 *Years of Age returned as Occupied in* 1891.

Towns in which the Percentage of Wives and Widows between 25 and 45 Years of Age returned as Occupied was, in 1891,		Births, 1889-93.	Deaths of Infants, 1889-93.	Deaths of Infants in 1,000 Births, 1889-93.		Mean of Rates of Infant Mortality in Different Towns, 1889-93.	
At least 47	Blackburn	20,016	4,137	207		207	
39	Preston	19,274	4,695	244		244	
25	Oldham and Leicester	46,062	9,035	196	183	195	184
20	Nottingham and Bradford	62,961	10,899	173		173	
15	Birmingham, Bolton, Salford, and Manchester	207,871	38,320	184	178	185	175
10	Norwich, Bristol, Huddersfield, Halifax, Leeds	133,367	22,498	169		167	
5	Brighton, Liverpool, Sheffield	161,212	29,725	184	176	174	168
1	Portsmouth, Plymouth, Wolverhampton, Derby, Hull, and Cardiff	123,301	20,438	166		165	
Towns in which unmarried were in excess of occupied women	Birkenhead, Sunderland, and Newcastle	73,623	12,571	171		171	

Although this gives no uniformly descending series when 5 is the difference selected for the grouping, when 10 is the difference selected we have such a series. And it is curious that in the former case the alternates give two uniformly descending series. On the other hand the following table shows that this minimum percentage of wives and widows occupied varies inversely with the proportion of the servant keeping classes, even when the smaller grouping is adopted.

Obviously both the real percentage of married and widowed women occupied, and the infant mortality in working class districts, are concealed by the presence of a servant keeping class. But in so far as this method of comparing towns with regard to employment of married women is a test, it lends little support to the theory that differences in the extent of employment of married women in towns are the main cause of the differences in the infant mortality rates.

Married women's labour may be carried on under good conditions or bad conditions; it may be well paid or badly paid; it may be carried on under compulsion or by choice. It may be the

labour of childless women, or of women with children whom they are supporting, or whom they choose to neglect. That the results on infant life should be the same according to numbers of occupied wives, regardless of any question of the proportion in which these different classes exist among them, would be suprising, unless it be held that this proportion would always vary directly with poverty. This is very doubtful; and nothing in the preceding tables seems to me to point to such a conclusion. They point to uniformity of habits of life in the servant keeping classes, but tell us nothing about the working classes.

Table showing the Rate of Infant Mortality during the Five Years 1889-93, *and the Percentage of the Female Population above* 10 *Years of Age returned as In-door Domestic Servants in* 1891, *in Twenty-Seven Urban Sanitary Districts, grouped according to the Minimum Percentage of Wives and Widows between* 25 *and* 45 *Years of Age returned as Occupied in* 1891.

Towns in which the Percentage of Wives and Widows between 25 and 45 Years of Age returned as Occupied was, in 1891,		Deaths of Infants in 1,000 Births, 1889-93.	Mean of Rates of Infant Mortality in the Different Towns, 1889-93.	Percentage of Females above 10 returned as In-door Domestic Servants, 1891.	Mean of Percentages of In-door Domestic Servants in the Different Towns, 1891.
At least					
47	Blackburn	207	207	5	5
39	Preston	244	244	6	6
25	Oldham and Leicester	196	195	6	6
20	Nottingham and Bradford	173	173	7	7
15	Birmingham, Bolton, Salford, and Manchester	184	185	7	7
10	Norwich, Bristol, Huddersfield, Halifax, and Leeds	169	167	9	8
5	Brighton, Liverpool, and Sheffield	184	174	11	12
1	Portsmouth, Plymouth, Wolverhampton, Derby, Hull, and Cardiff	166	165	11	11
Towns in which unmarried were in excess of occupied women	Birkenhead, Sunderland, and Newcastle	171	171	12	12

One thing only is clear, that to find out the causes of high rates of infant mortality, it will not do to compare town with town. Working class districts with low rates must be compared with working class districts with high rates, and districts with high rates must be compared with each other.

To do this we must pass from the returns for the large urban sanitary districts to the returns for registration sub-districts. In

doing so I would call attention to the fact that the census gives us some details of the occupations of women and girls in London and sixty-one urban sanitary districts, but as the infant mortality returns were only published for twenty-seven of these until 1892, and for thirty-two only from that date, the occupation returns cannot be used in this connection. While, on the other hand, although the Registrar-General gives us infant mortality rates (or rather the material from which the rates may be calculated) of sub-registration districts, we have no information as to occupation in these sub-districts.

It was necessary therefore in order to arrive at any kind of conclusion on this subject, to actually count the number of married women returned as occupied in certain sub-registration districts; facilities for doing this were readily accorded to me, but lack of time has prevented me from obtaining more information than suffices to show that high rates of infant mortality are to be found where but a small proportion of married women are occupied, and that in districts with a considerable proportion of married women occupied, the infant mortality rates vary irregularly.

Table showing Rates of Infant Mortality, and Percentage of Married Women Occupied, in certain Sub-Registration Districts.[1]

Registration District.	Sub-Registration District.	Population of Sub-Districts, 1891.	Deaths of Infants in 1,000 Births, 1889-93.	Percentage of Married Women Occupied in 1891.
Preston	Trinity	36,503	266	45·0
Sunderland.....	Sunderland.....	15,057	223	6·5
Liverpool	Dale Street.....	12,931	220	17·7
,, ...	St. George	4,924	200	14·0
Sheffield	South Sheffield	18,411	193	12·1
Preston	Walton-le-Dale	11,432	186	32·7
Rochdale	Whitworth.....	18,600	177	28·2
,, ...	Wardleworth.....	19,238	171	26·7
,, ...	Blatchinworth	8,384	133	23·4

In the Preston and Rochdale districts it will be noticed that although the infant mortality rates fall with the percentages of married women occupied, they are not in the same proportion as these percentages, nor do they fall proportionately.

The figures for Liverpool and Sunderland suggest a far worse state of things than those for Preston. Whatever may be the dangers to infant life in a district where nearly half the married

[1] I am indebted to Mr. E. J. E. Craven for the checking of the tables in the Appendix compiled from the Census Reports. The above table is liable to some slight error, as time did not permit of a second counting, except in the case of the Rochdale figures.

women are full time workers in a factory, the children of industrious mothers are in a better position than the children of idle women of irregular habits. If the infant mortality of Preston is only due to the employment of married women, the 73 per cent. of infants in the Trinity district who survive have much better chances for the future than the 78 per cent. in the Liverpool Dale Street district, who are exposed to the dangers of a poverty stricken but idle or casually employed community.

But although if the employment of married women is the main cause of the infant mortality in Preston, it is astonishing that it should produce so little effect rather than so much, one question must present itself: why is the infant mortality higher at Preston than at Blackburn? Blackburn has a higher proportion of women and girls occupied, a higher proportion of married women and widows occupied, and a lower proportion of domestic servants, and yet it has a lower rate of infant mortality. The conditions of Preston must have changed, for above the age of 45 the proportion of women occupied in 1891 was higher in Preston than the proportion in Blackburn. Yet although Preston seems to have made progress in this respect as compared with Blackburn, nevertheless the infant mortality in the *registration* district of Preston only fell from 212 during 1871-80 to 203 during 1881-90, whereas the infant mortality in the registration district of Blackburn fell from 191 during 1871-80 to 178 during 1881-90.

In so far as the very round about methods I have been obliged to adopt throw light upon the facts, they all go to confirm Mr. Noel Humphreys's guarded contention, that "statistics do not entirely "support the assertion that factory employment is the main cause "of the high rate of infant mortality in Lancashire." Liverpool (registration district), with the highest rate of infant mortality, has a low percentage of married women occupied; the factory towns generally have their rate raised as compared with other towns by the absence of any large proportion of the servant keeping classes; and in these factory districts there are differences in infant mortality rates which do not correspond to differences in proportions of married women occupied.

Let me here guard against misapprehension. I take it as an indisputable fact that the industrial employment of married women with young children is an evil. I am not arguing that the employment of married women under such circumstances is not proved to be injurious; statistical evidence of such a fact is not necessary. The point is this, that in towns where an unusually high proportion of married women are occupied in factories, it does not follow that an unusually high proportion of mothers of infants under 1 year are employed, or even that the children of the mothers at

work are more neglected than those of unemployed mothers in the same position; and it is possible that some of the causes at work in districts with high rates of infant mortality and low percentages of married women occupied are also at work in some of the factory districts. And there is nothing so likely to weaken the power and to relax the efforts of the medical officers of health, as the easy going policy of a sanitary committee which believes itself entitled to attribute high death-rates to the moral habits of the community, quite apart from such factors as overcrowding and bad sanitary conditions.

In the Labour Department report on the statistics of employment of women and girls, it was shown that in 18 towns employing a high percentage of women in the textile and clothing trades, the minimum percentage of married and widowed women occupied between 25 and 45 years of age had fallen during the decade 1881-91 in every case except in Burnley. I have since ascertained the actual decline in the employment of married women in three of the Rochdale districts. I have also found the percentage of infants in these three districts whose mothers were returned as occupied married women.

Table showing the Percentage of Married Women Occupied, and the Percentage of Infants returned as Infants of Occupied Married Women, in 1881 *and* 1891, *in Whitworth, Wardleworth, and Bletchinworth Sub-Registration Districts of Rochdale.*

		Number of Married Women.	Percentage returned as Occupied.	Number of Infants.	Percentage returned as Children of Occupied Married Women.
Whitworth	1881	3,704	33·5	544	27·6
	'91	3,297	28·2	408	15·7
Wardleworth	1881	3,532	33·5	515	28·3
	'91	3,441	26·7	437	20·4
Bletchinworth	1881	1,390	26·7	206	16·5
	'91	1,442	23·4	146	8·2

The percentage of infants returned as children of occupied married women is in every case considerably less than the percentage of married women returned as occupied, and it has also diminished to a much greater extent during the decade. On the other hand it must be remembered that *if* the mortality is much higher among the infants of occupied married women, the death-rate, always higher in the first month of existence, *might* be the cause of the percentage of infants of occupied married women

being lower compared with the total infants than the percentage of married women returned as occupied.

To arrive at the truth we ought to be able to find from the census the real proportion of married women occupied; and in registering the deaths of infants under 1 year, the occupation of the mother within (say) six months before the birth of the child and during the period after its birth would have to be stated.

At present only the occupation of the father is given.

Apart from the statistics of infant mortality, it does not seem possible to secure any trustworthy statistics which might throw light on the effects of the industrial employment of women and girls on health.

After marriage the patients at our hospitals are generally described merely as wives, the occupation of the husband being given, and the occupation of the wife before marriage is of course not noted. But much of the injury done to young girls by working long hours under unhealthy conditions only shows itself in an acute form after marriage.

There is also another reason why no trustworthy statistics of the effect of industrial employment on women's health are forthcoming: a large proportion of the young women and girls employed in our large towns as domestic servants, shop assistants, and (to a less extent) dressmakers come from the country. If attacked by any severe illness they are always removed from their employers' premises, and, if possible, sent back to their friends in the country. The death certificate in such cases would probably contain no reference to occupation, as after a long illness the girl would be regarded as having been of no occupation.

Out of 476 female shop assistants in representative West End streets in 1891,

28	per cent.	were	born	in London.
18	,,	,,	,,	Kent, Sussex, Surrey, Hampshire, or Berkshire.
10	,,	,,	,,	Hertfordshire, Middlesex, Buckinghamshire, Oxfordshire, Huntingdonshire, Bedfordshire, or Cambridgeshire.
10	,,	,,	,,	Essex, Suffolk, or Norfolk.
15	,,	,,	,,	Wiltshire, Dorsetshire, Somersetshire, Gloucestershire, Devonshire, or Cornwall.
4	,,	,,	,,	Herefordshire, Shropshire, Staffordshire, Worcestershire, or Warwickshire.
3	,,	,,	,,	Lincolnshire, Nottinghamshire, or Leicestershire.
4	,,	,,	,,	Lancashire, Cheshire, or Yorkshire.
5	,,	,,	,,	Wales or Monmouthshire.
3	,,	,,	,,	The Northern Counties, Scotland, or Ireland.

I see no way of reforming our industrial statistics of health except by the efforts of private persons, and few medical men with large numbers of working class patients can spare time for such investigations. Patient follows patient so rapidly that there is barely time to ascertain the disease that requires cure, and none to go into questions of its origin.

The establishment of anthropometrical laboratories in every large industrial centre, could alone enable us to arrive at the knowledge we ought to have of the effect of the half-time system on the physique of children, and—even more important perhaps —the effect of full time on the physique of girls between 14 and 18.

I have hitherto made no mention of the Factory Returns. Until last year, the Factory Returns since 1840, although no doubt valuable for the purposes for which they were obtained, are almost valueless so far as any question of the industrial employment of women is concerned. The annual returns which have now to be made will be more and more valuable every year, mainly because they are at once being applied to many practical purposes by the department compiling them. It is this point, of the importance of *using* statistics, on which I wish finally to lay stress. From the statistical point of view it is necessary, for nothing else can secure the improvement of the methods of collecting and classifying the information required. And the application of our statistics should be local as well as imperial. It is therefore most desirable that both the Census Returns and the Factory Returns should give as full information as possible of the extent of employment in each of our large urban sanitary districts and in the sub-registration districts of London. Every medical officer should have such information ready to hand; and such a publication, by eliciting criticism from persons with local knowledge, would most certainly result in a general improvement of our methods of classification.

In illustration of the need for such local knowledge, one or two difficulties in the way of obtaining correct information in my own branch of investigation may be mentioned. I have occupied much of your time in examining the deficiencies of other people's statistics, when perhaps there might seem to be ample scope for criticism nearer home. I have concentrated my attention on the effect of the industrial employment of women on health, when such questions as its effect on the wages and employment of men, the commercial value of women's work, the social loss or gain resulting from their employment, come more within my own province. My excuse must be that very little exact information on such subjects can be obtained from persons who have no knowledge, and can

have no knowledge of the relation their little world bears to the other little worlds which go to make up the town they live in; under such circumstances the sun is generally regarded as going round the earth. One instance only need be given of the kind of error which arises from the want of local knowledge.

About six weeks ago a statement appeared in one of the newspapers that the employment of married women was increasing in Rochdale. I have here shown that it is almost certain that between 1881 and 1891 the employment of married women in Rochdale diminished. It is possible that since 1891 a tendency in a different direction has shown itself; but my point is this, that under certain circumstances the employment of married women may be diminishing in the town and yet seem to the operative to be increasing in the factory. Given a marked decline in the branch of trade under consideration, and before very long the influx of girls and young women will cease; mills will be closed and new ones will not be opened, and it will be the older and more necessitous women who will seek employment in the mills still running. What is really an abandonment of the trade by the younger women, has the appearance inside the mill of an increased employment of married women.

Similarly it is frequently stated that the employment of women is increasing, and that they are taking some branch of trade away from men into their own hands.

Now it frequently happens that the town in which the women, when the matter is looked at in the factory alone, seem to have taken possession of the trade, is one in which, relatively to population, the employment of women in that trade has decreased. A better paying trade withdraws the men from the trade in which they are competing with women, and the women are left to run it; but at the same time the higher wages earned by the men in the other trade enable them to support their wives at home, to keep their children longer at school, and it may be to find them openings in a different branch of employment.

Thus it was pointed out in the Labour Department report on the statistics of employment of women, that the large towns in Lancashire in which the highest proportion of the female population were cotton operatives, viz., Burnley and Blackburn, were (with the exception of Oldham) those in which the highest proportion of the cotton operatives were men and boys; and that those in which the lowest proportion of the female population were cotton operatives, viz., Salford and Manchester, were those in which the highest proportion of the cotton operatives were women and girls.

The points therefore to which I wish to call the attention of

those interested in the improvement of our industrial statistics, are as follows:—

(1.) That the information relating to occupations of women and girls contained in the schedules filled in at the Census is sufficiently trustworthy to justify greater efforts and expense in its tabulation.

(2.) That the occupations of married women should be separately tabulated.

(3.) That the particulars of the occupations of women and girls at different age-periods, both in the Census and Factory returns, should be published for all urban sanitary districts with over 50,000 inhabitants, and for the Potteries, which although nominally an aggregate of small towns, is really one large town employing persons under exceptional conditions.

(4.) That, if possible, the classification of the larger women's industries should be sub-divided so as to separate persons working under conditions differing so widely as to necessitate different legislative treatment, should legislative treatment have to be applied.

With regard to health statistics, I would merely point out that we have no official statistics connecting the industrial occupation of women and girls with its effects on health in a trustworthy manner. With regard to the deaths of infants under 1 year, this I think might fairly be asked for.

APPENDIX.

TABLE I.—*Showing for the whole of England and Wales the Number of Females per* 1891, *according to the Census of these Years,*

Occupation.	Per 10,000 Females of				
	1891.	1881.*	1871.	1861.	1851.
Domestic, in-door servant	1,209	1,231	1,375	1,239	1,084
Milliner, dressmaker, staymaker	363	358	352	389	364
Cotton, cotton goods manufacture	290	303	319	334	281
Washing and bathing service	162	177	193	214	193
Schoolmistress, teacher, professor, lecturer	126	123	108	103	93
Charwoman	92	92	89	84	77
Tailoress	78	53	43	35	25
Worsted, stuff manufacture	61	64	71	65	80
Woollen cloth „	54	59	65	64	66
Sick nurse, midwife, invalid attendant, and subordinate medical service	47	38	35	38	37
Shirt maker, seamstress	46	82	91	99	86
Shoe, boot, patten, clog maker	40	36	30	51	42
Draper, linendraper, mercer	40	29	22	15	9
Grocer, tea, coffee, chocolate maker, dealer	40	26	26	26	19
Lodging, boarding house keeper	39	33	25	22	24
Inn, hotel servant	39	26	23	18	46
Silk, satin, velvet, ribbon manufacture	28	41	60	93	106
Agricultural labourer, farm servant	21	40	66	117	207
Total for above occupations	2,775	2,811	2,993	3,006	2,839
Textile worker, factory worker (undefined)	14	14	25	14	5
Machinist (undefined)	19	8	24	....	....
Other occupations	634	572	616	588	622
Total for all occupations	3,442	3,405	3,658	3,608	3,466

* See note

APPENDIX.

10,000 *above* 10 *Years of Age Engaged in Occupations in* 1851, 1861, 1871, 1881, *and with the Decennial Increases or Decreases.*

and above 10 Years.

Increase or Decrease on Previous Decade.								Occupation.
1891.		1881.*		1871.		1861.		
Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.	
....	− 22	....	−144	+136	....	+155	....	Domestic, in-door servant
+ 5	....	+ 6	....	....	− 37	+ 25	....	Milliner, dressmaker, staymaker
....	− 13	....	− 16	....	− 15	+ 53	....	Cotton, cotton goods manufacture
....	− 15	....	− 16	....	− 21	+ 21	....	Washing and bathing service
+ 3	....	+15	....	+ 5	....	+ 10	....	Schoolmistress, teacher, professor, lecturer
....	....	+ 3	....	+ 5	....	+ 7	....	Charwoman
+25	....	+10	....	+ 8	....	+ 10	....	Tailoress
....	− 3	....	− 7	+ 6	....	....	− 15	Worsted, stuff manufacture
....	− 5	....	− 6	+ 1	....	....	− 2	Woollen cloth ,,
+ 9	....	+ 3	....	....	− 3	+ 1	....	Sick nurse, midwife, invalid attendant, and subordinate medical service
....	− 36	....	− 9	....	− 8	+ 13	....	Shirt maker, seamstress
+ 4	....	+ 6	....	....	− 21	+ 9	....	Shoe, boot, patten, clog maker
+11	....	+ 7	....	+ 7	....	+ 6	....	Draper, linendraper, mercer
+14	....	....	....	....	....	+ 7	....	Grocer, tea, coffee, chocolate maker, dealer
+ 6	....	+ 8	....	+ 3	....	....	− 2	Lodging, boarding house keeper
+13	....	+ 3	....	+ 5	....	....	− 28	Inn, hotel servant
....	− 13	....	− 19	....	− 33	....	− 13	Silk, satin, velvet, ribbon manufacture
....	− 19	....	− 26	....	− 51	....	− 90	Agricultural labourer, farm servant
....	− 36	....	−182	....	− 13	+167	....	Total for above occupations
....	....	....	− 11	+ 11	....	+ 9	....	Textile worker, factory worker (undefined)
+11	....	....	− 16	+ 24	....	....	....	Machinist (undefined)
+62	....	....	− 44	+ 28	....	....	− 34	Other occupations
+37	....	....	−253	+ 50	....	+142	....	Total for all occupations

on p. 222.

TABLE I *Contd.*—*Showing for the whole of England and Wales the Number of* *in* 1851, 1861, 1871, 1881, *and* 1891, *according to the Census*

Occupation.	Per 10,000 Females 10 and				
	1891.	1881.*	1871.	1861.	1851.
Domestic in-door servant	665	702	927	824	624
Milliner, dressmaker, staymaker	108	67	48	60	71
Cotton, cotton goods manufacture	305	278	377	411	321
Washing and bathing service	11	9	9	11	10
Schoolmistress, teacher, professor, lecturer	37	37	22	14	4
Charwoman	2	1	1	....	1
Tailoress	32	12	9	8	7
Worsted, stuff manufacture	87	78	124	101	127
Woollen, cloth „	32	31	63	65	86
Sick nurse, midwife, invalid attendant, and subordinate medical service	....	....	....	....	....
Shirt maker, seamstress	8	11	16	20	20
Shoe, boot, patten, clog maker	28	17	18	25	25
Draper, linendraper, mercer	8	4	3	2	1
Grocer, tea, coffee, chocolate maker, dealer	6	3	2	2	1
Lodging, boarding house keeper	....	....	....	....	....
Inn, hotel servant	5	5	6	5	22
Silk, satin, velvet, ribbon manufacture	23	26	64	86	123
Agricultural labourer, farm servant	8	15	35	58	140
Total for above occupations	1,365	1,296	1,724	1,692	1,583
Textile worker, factory worker (undefined)	12	11	31	18	3
Machinist (undefined)	6	2	9	....	....
Other occupations	243	197	356	436	562
Total for all occupations	1,626	1,506	2,120	2,146	2,148

* See note

Females per 10,000, between 10 and 15 Years of Age, engaged in Occupations of these Years, with the Decennial Increases or Decreases.

under 15 Years of Age.								
Increase or Decrease on Previous Decade.								Occupation.
1891.		1881.*		1871.		1861.		
Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.	
....	− 37	....	−225	+103	....	+200	....	Domestic in-door servant
+ 41	....	+19	....	....	− 12	....	− 11	Milliner, dressmaker, staymaker
+ 27	....	....	− 99	....	− 34	+ 90	....	Cotton, cotton goods manufacture
+ 2	....	....	....	....	− 2	+ 1	....	Washing and bathing service
....	....	+15	....	+ 8	....	+ 10	....	Schoolmistress, teacher, professor, lecturer
+ 1	....	....	....	+ 1	....	....	− 1	Charwoman
+ 20	....	+ 3	....	+ 1	....	+ 1	....	Tailoress
+ 9	....	....	− 46	+ 23	....	....	− 26	Worsted, stuff manufacture
+ 1	....	....	− 32	....	− 2	....	− 21	Woollen, cloth ,,
....	....	....	....	....	....	....	....	Sick nurse, midwife, invalid attendant, and subordinate medical service
....	− 3	....	− 5	....	− 4	....	....	Shirt maker, seamstress
+ 11	....	....	− 1	....	− 7	....	....	Shoe, boot, patten, clog maker
+ 4	....	+ 1	....	+ 1	....	+ 1	....	Draper, linendraper, mercer
+ 3	....	+ 1	....	....	....	+ 1	....	Grocer, tea, coffee, chocolate maker, dealer
....	....	....	....	....	....	....	....	Lodging, boarding house keeper
....	....	....	− 1	+ 1	....	....	− 17	Inn, hotel servant
....	− 3	....	− 38	....	− 22	....	− 37	Silk, satin, velvet, ribbon manufacture
....	− 7	....	− 20	....	− 23	....	− 82	Agricultural labourer, farm servant
+ 69	....	....	−428	+ 32	....	+109	....	Total for above occupations
+ 1	....	....	− 20	+ 13	....	+ 15	....	Textile worker, factory worker (undefined)
+ 4	....	....	− 7	+ 9	....	....	....	Machinist (undefined)
+ 46	....	....	−159	....	− 80	....	−126	Other occupations
+120	....	....	−614	....	− 26	....	− 2	Total for all occupations

on p. 222.

TABLE I *Contd.*—*Showing for the whole of England and Wales the Number of Occupations in* 1851, 1861, 1871, 1881, *and* 1891, *according to the*

Occupation.	Per 10,000 Females 15 and				
	1891.	1881.*	1871.	1861.	1851.
Domestic, in-door servant	2,744	2,933	2,970	2,671	2,237
Milliner, dressmaker, staymaker	732	642	579	673	686
Cotton, cotton goods manufacture	555	580	592	634	537
Washing and bathing service	130	113	105	120	106
Schoolmistress, teacher, professor, lecturer	245	250	166	150	105
Charwoman	24	22	22	23	24
Tailoress	148	84	59	52	37
Worsted, stuff manufacture	117	124	127	115	145
Woollen, cloth ,,	106	120	122	106	99
Sick nurse, midwife, invalid attendant, and subordinate medical service	18	4	4	5	3
Shirt maker, seamstress	45	92	85	99	97
Shoe, boot, patten, clog maker	83	67	51	76	66
Draper, linendraper, mercer	91	67	49	32	16
Grocer, tea, coffee, chocolate maker, dealer	31	20	15	14	8
Lodging, boarding house keeper	4	4	4	2	3
Inn, hotel servant	93	69	61	45	121
Silk, satin, velvet, ribbon manufacture	46	65	79	138	157
Agricultural labourer, farm servant	30	61	109	222	455
Total for above occupations	5,242	5,317	5,199	5,177	4,902
Textile worker, factory worker (undefined)	35	34	49	27	8
Machinist (undefined)	42	17	67	1	....
Other occupations	1,017	846	808	731	742
Total for all occupations	6,336	6,214	6,123	5,936	5,652

* See note

Females per 10,000 *above* 15 *Years and under* 25 *Years of Age, engaged in Census of these Years, with the Decennial Increases or Decreases.*

under 25 Years of Age.

Increase or Decrease on Previous Decade.								Occupation.
1891.		1881.*		1871.		1861.		
Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.	
....	− 189	....	− 37	+299	....	+434	....	Domestic, in-door servant
+ 90	....	+ 63	....	....	− 94	....	− 13	Milliner, dressmaker, staymaker
....	− 25	....	− 12	....	− 42	+ 97	....	Cotton, cotton goods manufacture
+ 17	....	+ 8	....	....	− 15	+ 14	....	Washing and bathing service
....	− 5	+ 84	....	+ 16	....	+ 45	....	Schoolmistress, teacher, professor, lecturer
+ 2	....	....	....	....	− 1	....	− 1	Charwoman
+ 64	....	+ 25	....	+ 7	....	+ 15	....	Tailoress
....	− 7	....	− 3	+ 12	....	....	− 30	Worsted, stuff manufacture
....	− 14	....	− 2	+ 16	....	+ 7	....	Woollen, cloth „
+ 14	....	....	....	....	− 1	+ 2	....	Sick nurse, midwife, invalid attendant, and subordinate medical service
....	− 47	+ 7	....	....	− 14	+ 2	....	Shirt maker, seamstress
+ 16	....	+ 16	....	....	− 25	+ 10	....	Shoe, boot, patten, clog maker
+ 24	....	+ 18	....	+ 17	....	+ 16	....	Draper, linendraper, mercer
+ 11	....	+ 5	....	+ 1	....	+ 6	....	Grocer, tea, coffee, chocolate maker, dealer
....	....	....	....	+ 2	....	....	− 1	Lodging, boarding house keeper
+ 24	....	+ 8	....	+ 16	....	....	− 76	Inn, hotel servant
....	− 19	....	− 14	....	− 59	....	− 19	Silk, satin, velvet, ribbon manufacture
....	− 31	....	− 48	....	−113	....	−233	Agricultural labourer, farm servant
....	− 75	+118	....	+ 22	....	+275	....	Total for above occupations
+ 1	....	....	− 15	+ 22	....	+ 19	....	Textile worker, factory worker (undefined)
+ 25	....	....	− 50	+ 66	....	+ 1	....	Machinist (undefined)
+171	....	+ 38	....	+ 77	....	....	− 11	Other occupations
+122	....	+ 91	....	+187	....	+284	....	Total for all occupations

on p. 222.

TABLE I *Contd.*—*Showing for the whole of England and Wales the Number of* 1851, 1861, 1871, 1881, *and* 1891, *according to the Census*

Occupation.	Per 10,000 Females 25 and				
	1891.	1881.*	1871.	1861.	1851.
Domestic, in-door servant	902	845	985	915	897
Milliner, dressmaker, staymaker	331	371	411	462	415
Cotton, cotton goods manufacture	258	280	284	279	229
Washing and bathing service	164	185	200	227	208
Schoolmistress, teacher, professor, lecturer	137	121	120	111	118
Charwoman	102	100	95	89	82
Tailoress	66	55	50	40	28
Worsted, stuff manufacture	45	52	55	53	58
Woollen, cloth „	51	54	53	53	50
Sick nurse, midwife, invalid attendant, and subordinate medical service	48	23	18	20	21
Shirt maker, seamstress	39	79	92	107	93
Shoe, boot, patten, clog maker	33	33	26	56	45
Draper, linendraper, mercer	35	24	19	14	9
Grocer, tea, coffee, chocolate maker, dealer	38	24	22	23	19
Lodging, boarding house keeper	38	29	21	20	23
Inn, hotel servant	35	22	19	15	30
Silk, satin, velvet, ribbon manufacture	23	35	57	88	96
Agricultural labourer, farm servant	18	31	52	84	125
Total for above occupations	2,363	2,363	2,579	2,656	2,546
Textile worker, factory worker (undefined)	7	10	18	10	4
Machinist (undefined)	17	8	16	....	....
Other occupations	573	519	542	502	523
Total for all occupations	2,960	2,900	3,155	3,168	3,078

* See note

Females per 10,000 *between* 25 *and* 45 *Years of Age, engaged in Occupations in of these Years, with the Decennial Increases or Decreases.*

under 45 Years of Age.								
Increase or Decrease on Previous Decade.								Occupation.
1891.		1881.*		1871.		1861.		
Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.	
+57	....	....	−140	+70	....	+ 18	....	Domestic, in-door servant
....	− 40	....	− 40	....	− 51	+ 47	....	Milliner, dressmaker, staymaker
....	− 22	....	− 4	+ 5	....	+ 50	....	Cotton, cotton goods manufacture
....	− 21	....	− 15	....	− 27	+ 19	....	Washing and bathing service
+16	....	+ 1	....	+ 9	....	....	− 7	Schoolmistress, teacher, professor, lecturer
+ 2	....	+ 5	....	+ 6	....	+ 7	....	Charwoman
+ 11	....	+ 5	....	+ 10	....	+ 12	....	Tailoress
....	− 7	....	− 3	+ 2	....	....	− 5	Worsted, stuff manufacture
....	− 3	+ 1	....	....	....	+ 3	....	Woollen, cloth „
+25	....	+ 5	....	....	− 2	....	− 1	Sick nurse, midwife, invalid attendant, and subordinate medical service
....	− 40	....	− 13	....	− 15	+ 14	....	Shirt maker, seamstress
....	....	+ 7	....	....	− 30	+ 11	....	Shoe, boot, patten, clog maker
+ 11	....	+ 5	....	+ 5	....	+ 5	....	Draper, linendraper, mercer
+14	....	+ 2	....	....	− 1	+ 4	....	Grocer, tea, coffee, chocolate maker, dealer
+ 9	....	+ 8	....	+ 1	....	....	− 3	Lodging, boarding house keeper
+13	....	+ 3	....	+ 4	....	....	− 15	Inn, hotel servant
....	− 12	....	− 22	....	− 31	....	− 8	Silk, satin, velvet, ribbon manufacture
....	− 13	....	− 21	....	− 32	....	− 41	Agricultural labourer, farm servant
....	....	....	−216	....	− 77	+110	....	Total for above occupations
....	− 3	....	− 8	+ 8	....	+ 6	....	Textile worker, factory worker (undefined)
+ 9	....	....	− 8	+16	....	....	....	Machinist (undefined)
+54	....	....	− 23	+40	....	....	− 26	Other occupations
+60	....	....	−255	....	− 13	+ 90	....	Total for all occupations

on p. 222.

TABLE I *Contd.—Showing for the whole of England and Wales the Number of Females* 1871, 1881, *and* 1891, *according to the Census of*

Occupation.	Per 10,000 Females 45 and				
	1891.	1881.*	1871.	1861.	1851.
Domestic, in-door servant	479	453	663	533	470
Milliner, dressmaker, staymaker	218	265	257	216	151
Cotton, cotton goods manufacture	87	101	100	89	83
Washing and bathing service	297	341	372	412	380
Schoolmistress, teacher, professor, lecturer	53	58	86	100	106
Charwoman	213	215	194	186	177
Tailoress	58	50	42	30	21
Worsted, stuff manufacture	16	20	18	16	20
Woollen, cloth „	21	25	30	39	44
Sick nurse, midwife, invalid attendant, and subordinate medical service	102	106	96	106	109
Shirt maker, seamstress	73	110	134	130	103
Shoe, boot, patten, clog maker	17	22	22	36	27
Draper, linendraper, mercer	19	13	12	9	6
Grocer, tea, coffee, chocolate maker, dealer	73	50	51	50	40
Lodging, boarding house keeper	102	86	64	56	61
Inn, hotel servant	10	4	4	3	7
Silk, satin, velvet, ribbon manufacture	21	37	50	68	65
Agricultural labourer, farm servant	26	47	60	86	107
Total for above occupations	1,885	2,003	2,255	2,165	1,977
Textile worker, factory worker (undefined)	4	5	10	6	3
Machinist (undefined)	6	2	3	....	....
Other occupations	602	598	659	624	659
Total for all occupations	2,497	2,608	2,927	2,795	2,639

* See note

per 10,000 *between* 45 *and* 65 *Years of Age, engaged in Occupations in* 1851, 1861, *these Years, with the Decennial Increases or Decreases.*

under 65 Years of Age.

Increase or Decrease on Previous Decade.								Occupation.
1891.		1881.*		1871.		1861.		
Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.	
+ 26	....	....	−210	+130	....	+ 63	....	Domestic, in-door servant
....	− 47	+ 8	....	+ 41	....	+ 65	....	Milliner, dressmaker, staymaker
....	− 14	+ 1	....	+ 11	....	+ 6	....	Cotton, cotton goods manufacture
....	− 44	....	− 31	...	− 40	+ 32	....	Washing and bathing service
....	− 5	....	− 28	....	− 14	....	− 6	Schoolmistress, teacher, professor, lecturer
....	− 2	+ 21	....	+ 8	....	+ 9	....	Charwoman
+ 8	....	+ 8	....	+ 12	....	+ 9	....	Tailoress
....	− 4	+ 2	....	+ 2	....	....	− 4	Worsted, stuff manufacture
....	− 4	....	− 5	....	− 9	....	− 5	Woollen, cloth ,,
....	− 4	+ 10	....	....	− 10	....	− 3	Sick nurse, midwife, invalid attendant, and subordinate medical service
....	− 37	....	− 24	+ 4	....	+ 27	....	Shirt maker, seamstress
....	− 5	....	....	....	− 14	+ 9	....	Shoe, boot, patten, clog maker
+ 6	....	+ 1	....	+ 3	....	+ 3	....	Draper, linendraper, mercer
+ 23	....	....	− 1	+ 1	....	+ 10	....	Grocer, tea, coffee, chocolate maker, dealer
+ 16	....	+ 22	....	+ 8	....	....	− 5	Lodging, boarding house keeper
+ 6	....	....	....	+ 1	....	....	− 4	Inn, hotel servant
....	− 16	....	− 13	....	− 18	+ 3	....	Silk, satin, velvet, ribbon manufacture
....	− 21	....	− 13	....	− 26	....	− 21	Agricultural labourer, farm servant
....	−118	....	−252	+ 90	....	+188	....	Total for above occupations
....	− 1	....	− 5	+ 4	....	+ 3	....	Textile workers, factory workers (undefined)
+ 4	....	....	− 1	+ 3	....	....	....	Machinist (undefined)
+ 4	....	....	− 61	+ 35	....	....	− 35	Other occupations
....	−111	....	−319	+132	....	+156	....	Total for all occupations

on p. 222.

TABLE I *Contd.—Showing for the whole of England and Wales the Number of Females* 1881, *and* 1891, *according to the Census of these*

Occupation.	Per 10,000 Females of				
	1891.	1881.*	1871.	1861.	1851.
Domestic in-door servant	276	257	605	463	365
Milliner, dressmaker, staymaker	94	110	110	95	58
Cotton, cotton goods manufacture	13	18	38	51	54
Washing and bathing service	200	243	325	344	287
Schoolmistress, teacher, professor, lecturer	16	29	67	71	67
Charwoman	129	152	165	163	135
Tailoress	30	26	25	18	14
Worsted, stuff manufacture	3	3	5	10	17
Woollen, cloth „	5	9	22	38	43
Sick nurse, midwife, invalid attendant, and subordinate medical service	93	124	134	139	129
Shirt maker, seamstress	93	124	137	121	87
Shoe, boot, patten, clog maker	9	12	18	22	17
Draper, linendraper, mercer	9	7	8	8	5
Grocer, tea, coffee, chocolate maker, dealer	63	49	57	58	44
Lodging, boarding house keeper	81	76	60	56	55
Inn, hotel servant	2	1	2	1	2
Silk, satin, velvet, ribbon manufacture	13	25	35	45	46
Agricultural labourer, farm servant	19	44	66	100	121
Total for above occupations	1,148	1,309	1,879	1,803	1,546
Textile worker, factory worker (undefined)	2	2	11	9	5
Machinist (undefined)	1	....	1	....	....
Other occupations	447	517	702	708	699
Total for all occupations	1,598	1,828	2,593	2,520	2,250

* See note

per 10,000 *of and above* 65 *Years of Age engaged in Occupations in* 1851, 1861, 1871, *Years, with the Decennial Increases or Decreases.*

and above 65 Years of Age.								
Increase or Decrease on Previous Decade.								Occupation.
1891.		1881.*		1871.		1861.		
Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.	
+19	....	....	−348	+142	....	+ 98	....	Domestic in-door servant
....	− 16	....	....	+ 15	....	+ 37	....	Milliner, dressmaker, staymaker
....	− 5	....	− 20	....	− 13	....	− 3	Cotton, cotton goods manufacture
....	− 43	....	− 82	....	− 19	+ 57	....	Washing and bathing service
....	− 13	....	− 38	....	− 4	+ 4	....	Schoolmistress, teacher, professor, lecturer
....	− 23	....	− 13	+ 2	....	+ 28	....	Charwoman
+ 4	....	+ 1	....	+ 7	....	+ 4	....	Tailoress
....	....	....	− 2	....	− 5	....	− 7	Worsted, stuff manufacture
....	− 4	....	− 13	....	− 16	....	− 5	Woollen, cloth ,,
....	− 31	....	− 10	....	− 5	+ 10	....	Sick nurse, midwife, invalid attendant, and subordinate medical service
....	− 31	....	− 13	+ 16	....	+ 34	....	Shirt maker, seamstress
....	− 3	....	− 6	....	− 4	+ 5	....	Shoe, boot, patten, clog maker
+ 2	....	....	− 1	....	....	+ 3	....	Draper, linendraper, mercer
+14	....	....	− 8	....	− 1	+ 14	....	Grocer, tea, coffee, chocolate maker, dealer
+ 5	....	+16	....	+ 4	....	+ 1	....	Lodging, boarding house keeper
+ 1	....	....	− 1	+ 1	....	....	− 1	Inn, hotel servant
....	− 12	....	− 10	....	− 10	....	− 1	Silk, satin, velvet, ribbon manufacture
....	− 25	....	− 22	....	− 34	....	−21	Agricultural labourer, farm servant
....	−161	....	−570	+ 76	....	+257	....	Total for above occupations
....	....	....	− 9	+ 2	....	+ 4	....	Textile worker, factory worker (undefined)
+ 1	....	....	− 1	+ 1	....	....	....	Machinist (undefined)
....	− 70	....	−185	....	− 6	+ 9	....	Other occupations
....	−230	....	−765	+ 73	....	+270	....	Total for all occupations

on p. 222.

TABLE II.—*Showing for the more Important Industries employing Female Labour, the Number of Factories and Workshops under the* 1878 *Act, and the Total Number of Women and Girls Employed therein, according to the Factory and Workshop Return of Persons Employed,* 1895; *and also the Total Number of Women and Girls returned as Occupied at the Census,* 1891, *together with the Number Returned as Employer, Employed, or Working on Own Account.*

Industry.	Factory Returns, 1895.					Census Returns, 1891.				
	Number of		Number of Women and Girls Employed in			Women and Girls.				
	Factories.	Workshops.	Factories.	Workshops.	Factories and Workshops.	Total Occupied.	Employers.	Employed.	On Own Account.	Others.
Cotton	2,658	1,033	308,121	7,551	—	332,784	127	323,539	591	8,527
Wool	1,590		63,740		—	64,294	86	62,463	115	1,630
Worsted	701		71,902		—	69,629	16	67,905	83	1,625
Shoddy	244		4,832		—					
Flax	81		5,192		—	5,592	9	5,330	24	229
Hemp	82		3,282		—					
Jute	14		1,205		—	2,333	5	2,157	2	169
Cocoanut-fibre	36		607		—					
Silk	527		22,996		—	31,811	32	30,405	156	1,218
Lace (Nottinghamshire)	245		2,838		—	14,143	—	—	—	—
Hosiery	300		20,879		—	30,887	415	27,666	1,361	1,445
China and earthenware	885	—	24,411	—	24,411	21,772	35	21,041	58	638
Glass	359	—	1,878	—	1,878	2,105	17	1,984	20	84
Tailoring	236	6,519	28,273	26,099	54,372	89,224	929	77,472	5,628	5,195
Hats and caps	175	583	10,592	6,147	16,739	12,585	99	11,873	190	423
Millinery, mantle, stay, corset, and dressmaking	175	20,765	18,082	116,539	134,621	415,961	21,918	223,357	136,634	34,051
Shirt and linen collar making	93	368	10,049	5,776	15,825	52,943	453	32,614	13,678	6,198
Boots and shoes	855	3,684	21,534	10,078	31,612	46,141	1,170	41,644	1,300	2,027
Paper, printing, stationery, &c.	8,144	661	46,637	3,822	50,459	50,476	372	44,952	420	4,732

TABLE III—*Showing for London and Twenty-Seven Large Towns (Urban Sanitary Districts) the Number of Births, the Number of Deaths of Infants under* 1 *Year, and the Number of Deaths of Infants under* 1 *Year in every* 1,000 *Births, during the Five Years* 1889-93*; together with the Number of Females above* 10 *Years of Age in* 1891, *and the Number of Females Returned as In-door Domestic Servants in* 1891 *in those Towns.*

Towns.	Number of Births, 1889-93.	Number of Deaths of Infants under 1 Year, 1889-93.	Number of Deaths of Infants under 1 Year, per 1,000 Births, 1889-93.	Female Population above 10 Years of Age, 1891.	Female In-door Domestic Servants, 1891.
London	660,690	102,718	155	1,740,417	238,366
Brighton	14,852	2,234	150	53,176	9,828
Portsmouth	23,914	3,498	146	63,803	6,999
Norwich	15,935	2,802	176	42,305	4,382
Plymouth	12,564	2,041	162	35,829	4,224
Bristol	33,471	4,891	146	94,946	12,307
Wolverhampton	13,928	2,582	185	31,436	3,136
Birmingham	74,818	13,295	178	188,773	13,827
Leicester	26,123	5,387	206	70,806	5,157
Nottingham	32,133	5,446	169	89,527	7,147
Derby	14,550	2,259	155	36,508	3,613
Birkenhead	16,635	2,826	170	39,428	5,912
Liverpool	89,558	17,264	193	203,022	19,978
Bolton	19,046	3,398	178	46,669	2,324
Manchester	78,466	14,740	188	201,088	15,523
Salford	35,541	6,887	194	78,007	5,532
Oldham	19,939	3,648	183	53,063	2,341
Blackburn	20,016	4,137	207	49,099	2,322
Preston	19,274	4,695	244	45,179	2,597
Huddersfield	11,292	1,834	162	40,996	2,913
Halifax	11,190	1,900	170	38,481	2,113
Bradford	30,828	5,453	177	92,145	5,582
Leeds	61,479	11,071	180	145,899	10,295
Sheffield	56,802	10,227	180	123,779	11,684
Hull	34,758	6,178	178	76,833	7,905
Sunderland	24,374	4,257	175	49,505	4,763
Newcastle	32,614	5,488	168	71,274	8,616
Cardiff	23,587	3,880	165	46,972	4,995

TABLE IV.—*Showing for London and its Sub-Registration Districts, and for Registration Districts with* 100,000 *Inhabitants, and for certain Industrial Registration Districts with less than* 10,000 *Inhabitants in England and Wales, the Number of Deaths of Infants under* 1 *Year in every* 1,000 *Births, and the Number of Deaths of Children under* 5 *Years to every* 1,000 *Children living under* 5 *Years, during the Decades of* 1871-80 *and* 1881-90.

Registration District.	1871-80.		1881-90.	
	Deaths of Infants to 1,000 Births.	Deaths per 1,000 under 5 Years.	Deaths of Infants to 1,000 Births.	Deaths per 1,000 under 5 Years.
England and Wales	149	63·12	142	56·82
London	158	72·76	152	68·16
1A. Paddington	153*	72·14*	143	62·91
1B. Kensington			154	62·86
2. Fulham	161*	65·99*	161	67·53
3. Chelsea	180	74·63	160	73·54
4. St. George Hanover Square	168	77·96	153	71·34
5. Westminster	179	84·98	163	72·32
6. Marylebone	164	81·91	148	74·82
7. Hampstead	136	57·21	117	48·55
8. Pancras	158	72·97	153	66·51
9. Islington	148	66·77	144	61·41
10. Hackney	144	60·86	137	60·43
11. St. Giles	176	92·69	154	79·73
12. Strand	203	99·97	226	109·60
13. Holborn	168	87·33	164	81·63
14. London, City	162	82·48	171	90·03
15. Shoreditch	159	77·04	168	78·47
16. Bethnal Green	160	78·68	157	75·85
17. Whitechapel	181	95·83	173	84·84
18. St. George in the East	181	88·54	182	87·74
19. Stepney	176	85·98	196	99·20
20. Mile End	152	72·47	146	69·05
21. Poplar	156	73·47	148	67·74
22. St. Saviour, Southwark	169	82·91	166	78·97
23. St. Olave, ,,	154	76·18	156	72·88
24. Lambeth	152	71·96	145	67·22
25. Wandsworth	149	58·31	141	56·54
26. Camberwell	147	58·55	143	59·53
27. Greenwich	148	63·77	147	65·62
28. Lewisham	126	48·47	121	44·61
29. Woolwich	133	61·28	124	50·82
38. Croydon	128	47·99	118	45·49
39. Kingston	113	42·21	115	41·95
77. Brighton	157	62·58	150	61·34
83. Portsea Island	140	59·12	139	57·61
97. Southampton	138	57·87	135	53·60
126. Brentford	139	51·47	136	51·90
129. Edmonton	131	45·84	125	49·10
160. Northampton	173	71·41	156	60·78
176. Luton	174	66·11	154	61·06
186. West Ham	145	55·54	142	57·74
225. Norwich	188	72·29	166	64·04

* During the 6 years 1875-80.

TABLE IV *Contd.—Showing the Number of Deaths of Infants under* 1 *Year in every* 1,000 *Births, &c.*

Registration District.	1871-80.		1881-90.	
	Deaths of Infants to 1,000 Births.	Deaths per 1,000 under 5 Years.	Deaths of Infants to 1,000 Births.	Deaths per 1,000 under 5 Years.
277. Plymouth	163	75·08	159	71·49
319. Bedminster	142	61·48	128	47·05
320. Bristol	168	78·23	156	69·49
321. Barton Regis	144	62·53	134	52·53
363. Stoke-upon-Trent	189	86·76	190	77·84
371. Wolverhampton	161	73·26	161	65·55
372. Walsall	168	78·43	159	64·29
373. West Bromwich	157	73·53	163	65·61
374. Dudley	171	84·91	166	68·95
385. King's Norton	128	50·90	127	45·81
386. Birmingham	179	86·10	174	74·69
387. Aston	160	70·75	153	59·63
392. Coventry	164	68·09	145	53·88
404. Hinckley	169	68·97	151	54·37
409. Leicester	214	92·52	203	78·23
430. Basford	168	68·40	157	61·00
431. Nottingham	184	79·30	174	79·53
Radford	193	81·63		
436. Derby	146	63·91	144	56·47
439. Chesterfield	149	63·76	148	54·70
443. Stockport	182	80·33	179	71·85
444. Macclesfield	152	62·92	145	56·60
448. Congleton	145	57·78	133	47·85
452. Birkenhead	133	62·44	145	60·59
453. Liverpool	217	119·29	219	114·25
454. Toxteth Park	161	75·91	165	79·31
455. West Derby			157	71·92
456. Prescot	146	70·51	157	68·70
458. Wigan	172	87·28	161	73·38
459. Warrington	151	67·61	145	63·13
460. Leigh	159	75·46	155	66·00
461. Bolton	167	78·54	163	66·27
462. Bury	163	75·84	159	64·63
463. Barton-on-Irwell	144	64·07	139	54·15
464. Chorlton	163	77·82	161	70·64
465. Salford	184	95·96	183	85·42
466. Manchester	190*	103·52*	193	92·84
467. Prestwich	165*	78·94*	156	74·71
468. Ashton-under-Lyne	179	83·81	172	71·91
469. Oldham	174	84·79	169	76·35
470. Rochdale	158	77·25	145	58·92
471. Haslingden	160	71·78	153	62·64
472. Burnley	183	80·45	184	77·13
473. Clitheroe	130	52·02	119	44·15
474. Blackburn	191	90·33	178	78·16
475. Chorley	158	67·70	152	58·35
476. Preston	212	97·85	203	86·40

* During the 6¼ years from 1st October, 1874-80.

TABLE IV *Contd.—Showing the Number of Deaths of Infants under* 1 *Year in every* 1,000 *Births, &c.*

Registration District.	1871-80.		1881-90.	
	Deaths of Infants to 1,000 Births.	Deaths per 1,000 under 5 Years.	Deaths of Infants to 1,000 Births.	Deaths per 1,000 under 5 Years.
492. Keighley	165	74·78	146	57·32
495. Huddersfield	156	68·23	153	62·21
496. Halifax	157	72·64	147	58·45
497. Bradford	177	83·71	161	65·15
498. Hunslet	192	88·35	174	74·23
499. Holbeck	196	94·00	179	73·46
500. Bramley	170	74·93	160	64·25
501. Leeds	188	87·47	174	72·58
502. Dewsbury	181	83·27	165	69·16
503. Wakefield	154	69·73	150	62·90
508. Ecclesall Bierlow	151	69·14	159	64·65
509. Sheffield	183	91·22	176	77·67
520. Sculcoates	170	71·53	152	60·48
521. Hull	178	77·89	167	68·80
534. Middlesbrough	152*	70·68	161	68·61
553. Sunderland	166	79·28	160	71·92
554. South Shields	164	79·97	146	62·87
555. Gateshead	170	81·53	159	65·88
556. Newcastle	176	81·71	162	68·32
557. Tynemouth	161	73·87	148	59·44
585. Newport	142	63·15	141	56·34
586. Cardiff	142	60·69	148	59·84
587. Pontypridd	162	78·00	171	70·78
588. Merthyr Tydvil	153	75·18	164	70·19
592. Swansea	141	69·51	141	61·63

* During $5\frac{1}{4}$ years from 1st October, 1875.

Discussion *on* Miss Collet's Paper.

Mr. Noel Humphreys said he must in the first place express his appreciation of the undoubted value of the paper. There were one or two points, however, on which he might say a word in defence of the census statistics. First with regard to the statement of employers and employed, the President would probably be able to throw light upon the object which the census committee had in view when they recommended that this addition should be made to the census schedule. It was an entirely new subject of inquiry, and he should like it to be understood how extremely difficult it was to make people understand how they were to fill up this part of the schedules. It was obvious, as Miss Collet admitted, that there was often the greatest confusion in the minds of persons whether they should put themselves down as "employer" or "employed." The Census Office had all kinds of questions submitted to it as to whether a person who worked at home and was assisted by his wife and family should be treated as an "employer." With regard to the employed there was again a question whether a person who took work from a middleman and did the work at home was working on his or her own account—for which there was a third column—or should be returned as employed. The instructions were very carefully considered, though he would not venture to say they were perfect. Moreover, however carefully they may be worded, there is no assurance that they will be carefully read, and consequently they will be variously construed. He fully endorsed the suggestion with regard to certain proposed additions to the tabulated results of the census, and also the statement that what was wanted was not so much additional information, as that the information given should be turned to fuller account. That was to a great extent a financial question, a question of the amount placed at the disposal of the Census Office by the Treasury. There could not be any doubt that the occupation of women in the future should be returned under two different headings, separate returns being given of the occupations of single and of married women. If he had anything to do with the next census, he should have great pleasure in using any influence he might have to secure the separate tabulation of the occupations of married women. Having some years ago expressed an opinion with regard to the causation of infant mortality, he was glad to find that Miss Collet to some extent endorsed his view. There certainly appeared to be insufficient grounds for discouraging the employment of women, or even of married women, in factories or elsewhere, so long as the conditions under which they worked were properly supervised and safe guarded. Miss Collet had proved conclusively that infant mortality was in the main governed by the home conditions of the people and by the amount of attention devoted to the children by their parents, which was

personal equation rather than the effect of the occupation of women.

Mr. Charles Booth was extremely glad to hear that Mr. Humphreys looked forward to the next census being carried out more perfectly than it ever had been. He had attempted himself to use the figures concerning the particular question of employer or employed, and although he knew the difficulties connected with them, he found them of great value. This paper was further evidence of the excellent use that could be made of figures of that sort even if they were not ideally perfect. The definition of "employer" and "employed" would be made very much clearer if the Factory Act made it more clear what was meant by "workshops," and what was meant by an "employed person." They might hope that all Government departments connected with these matters would work hand in hand, and that they would have progress all round. He was a strong advocate of a very complete system of registration, which should ensure that whatever industrial establishments came under the control of the Factory Acts, should also be registered, so that more complete and accurate statistics might be collected. Also that it might be more easy under the census for people to know and declare whether they were or were not what was recognised industrially, and for the purpose of the census, as "employed persons."

There was one point with regard to the interesting deductions which had been drawn from the change in the employment of women with regard to the ages of those employed, to which he should like to draw attention. It would be seen that in the years of efficiency there was an increase in the proportion of women employed, but in the years of inefficiency there was a decrease. There was no year of those brought forward in which the number of young women employed from 15 to 35 had not increased. Those were the years which women rightly gave to efficient industrial effort. It was part of a tendency everywhere towards industrial efficiency, which he believed to be the key note of the industrial condition of the present time—that work was done by both men and women in their efficient years. This was also connected with an increase in wealth, because in the inefficient years of childhood the children were most easily supported. They were not only not compelled to go to work, but they were not wished to go to work by their parents so early. There was more wealth and more money to be devoted to the care of the children and to the keeping them at home until their efficient time came. The same thing applied also in old age.

Sir Rawson Rawson said it was now just fifty years since the Society appointed a committee to consider the question of the census then about to be taken, and he thought their exertions were of some use in opening the eyes of the legislature to the necessity of modifying the measure as introduced by the Government. At that time the occupations of females attracted but little attention, and were very different from what they were at the

present day. Why should not the Council of the Society after fifty years resume the consideration of the census, more particularly in connection with this question of obtaining more detailed information with regard to the employment of females? He believed they would have the advantage of distinguished experts to guide them in their examination of the question, and that any suggestion that appeared expedient and feasible which emanated from such a committee, and which was ratified by the Society, would receive attention, and might be useful in the consideration of this important question.

Mr. Jesse Argyle, after expressing regret that he had not had an opportunity of reading beforehand Miss Collet's excellent paper, said that so far one of the most striking points in the whole paper had not been noticed, namely, the connection between a high infantile mortality and the conditions and surroundings of female workers, as apart from the question of their employment. Miss Collet had put forward good grounds for questioning what had been the generally accepted theory, and he was reminded of a paper read by Mr. Booth some years ago, which lent a good deal of support to her contention. That paper dealt with the whole of the registration districts of London, and showed very clearly that a high infantile mortality as well as a high birth-rate went with conditions of great poverty and over-crowding, and that the poorest and most crowded districts were not by any means necessarily those in which the women were most engaged in industrial occupations. For instance, in St. George's in the East, where crowding was greatest and poverty was very great, there was a high birth-rate and a high death-rate. A high birth-rate meant necessarily a high death-rate, but he did not suppose it would follow that in towns where there were a great many women employed there would be a very high birth-rate. He should think it would be rather the contrary. With regard to what Miss Collet said as to getting fuller and more uniform information from the census, he should certainly say that, although there had been very great improvements in the latest censuses, still something more might be done. He had been greatly misled in going through the figures by the changes made between one census and another without any reference in the tables to show that such change had been made. He did not say there was no reference anywhere, but there was certainly no reference on the face of the statements. It would be very useful if, whenever a change was made in the method of tabulation, a note were added in connection with the table stating the fact. What Miss Collet said about changes in domestic service reminded him that when he was going over the figures for the Irish census for one year, he was startled by the discrepancies in the numbers of the domestic class as between one census and another, caused, as he found by the report later on, by the transference of married women from the domestic to the unoccupied group.

Sir Robert Giffen said he should like to add his testimony

to that of other speakers, who had expressed their sense of the great value of this paper. Miss Collet had brought great skill and energy to bear in working out the various statistical problems contained in it. The most important fact of all was that the industrial employment of women, in spite of all they heard of the women's movement, had really been diminishing; but on further investigation it appeared that diminution had taken place in industrial employment of a kind which was not desirable, and at the same time there had been an increase of certain descriptions of industrial employment which were highly desirable. One of the instances of diminution which at once presented itself to the mind, was the diminution of employment in agriculture and in mines. It was highly desirable that female labour in such directions should diminish, but at the same time it was desirable that women should have the opportunity of good employment in suitable fields, that they should be properly trained for it; and they should be able to work in a remunerative way whilst they were young and active. The other point which was brought out by Miss Collet's paper was the proof she had given that there had been no justification for the belief, which existed very extensively at one time, that the occupation of women was a cause of infant mortality. It was pointed out that where infant mortality was high, there were sufficient reasons to account for it without ascribing it to the proper occupation of women, and there was not shown to be any connection between the occupation itself and that mortality. It was very important that further investigation should be made—and the want of materials for such an investigation was what Miss Collet mainly insisted upon—as to the effect of different female occupations on the health of the people engaged in them. These were points of great importance socially, and they were much indebted to Miss Collet for the pains she had taken on the subject.

Mr. A. E. Bateman said this was a very useful paper, and Miss Collet being a colleague of his in the Board of Trade, he thought it was a great compliment to the department that she should come there and read such an excellent paper. There was only one point he wished to allude to, and that was the question as to whether the wages of domestic servants really fell or rose between 1851 and 1871. He had once before tried to get members of the Society to ransack their old shelves, and see if they could not find "family wages books." He held in his hand a book of this kind which had been kept in his wife's family since nearly the beginning of the century, for the purpose of recording various particulars concerning every servant. He need hardly say there was a good deal of variety; even the good old servants were some of them called "sluts" occasionally, and it was said that one "would not get up in the morning" or was "saucy." The wages in the early part of the century were very much lower than now, and also as a rule they did not have tea and sugar, but they had caps and a certain amount of print for gowns provided by their employers, but that was deducted out of their wages. For the

period from 1851 to 1871 he had taken out the figures for that family. One cook got 16*l.* in 1851, and another cook 14*l.* for the greater part of her period of service, ending up with 18*l.* Housemaids had 11*l.* in 1852, then 11*l.* and 12*l.*, and ended up with 12*l.* and 14*l.* on one occasion. The nurse began with 12*l.* and went on for fifteen years until she became ladies' maid and got raised. It was after 1870 when the index number got up so high that domestic servants shared in the rise of prices between 1872 and 1875. Without more of such records it was difficult to say what the movement of wages had been, and he should very much like a thorough inquiry to be made into the wages of domestic servants from the beginning of the century. They had tried to do something of that kind at the Board of Trade as regards present wages, and in the "London Gazette" of that day there was a report on the wages of cooks and housemaids in London and the provinces, derived from both the registry offices and a great number of other inquiries. He hoped in time he would be able to secure fairly accurate returns, and if any members of the Society could get hold of such wages books as he had referred to, he would be glad if they would communicate with the Secretary of the Society on his behalf.

Miss Petherbridge said the original work she had done was in connection with library work, and that was three years ago at the People's Palace with Miss James, the chief librarian. Library work, as far as women were concerned, had decreased immensely during the last three years. When she was in the United States three years ago she had done some statistical work amongst the same class of people, chiefly women. There the libraries were mainly staffed by women, and one of the English librarians made the remark that in America women did all the work and the men took all the credit. Salaries were very satisfactory at the present moment. There were five or six women making 500*l.* a year in libraries, whereas the chief librarian at Liverpool, a man who had worked for many years, only got about 500*l.* It had been said sometimes that the rate of living in America was much more expensive; but that was not true, because you could live there from 20*s.* to 25*s.* a week, and you could not live decently in London under that. When women started in America twenty to twenty-five years ago they had to struggle against bad times; they were not welcomed by the men; but as the libraries increased, there were not enough men fitted to take up the work. A library school was founded so as to afford training for the work, and as more women went to be trained than men, the consequence was that when there was a trained woman applying and an untrained man, the woman got the post. She found that stenographers got better prices than in England. A first class typist and stenographer could earn easily 180*l.* a year in Boston or New York. She was struck by the fact that they were highly competent; they took such pains to make themselves capable and efficient, that naturally they were able to command good salaries.

Mr. J. A. Baines said that in his opinion the rough and ready method of census taking did not admit of a very high degree of accuracy in a census of our complex economic system in England or in any civilised country. His original views, however, had been considerably modified by the use made of our English statistics first by Mr. Charles Booth in his monumental work on London, which could not have been brought to its perfection and completeness without such statistics as the census gave, and also by papers such as that with which Miss Collet had favoured them. Still in the main it would be seen that almost all those efforts would have been of very little use if they depended entirely on the census papers. Great light was thrown on the census figures by extraneous observation, and such special inquiry seemed to show that these figures of occupation by themselves were rather an unsafe guide. They all knew the comprehensive and laborious classification made by Signor Bodio by means of comparative tables based upon international census returns, but he could only use the latter on very broad lines, and he could not make any use of them in arguing on economic questions. It was the same with the English statistics, and one of the most valuable parts of Miss Collet's paper appeared to him to be that in which she had brought the results of her special examination of the Rochdale statistics to bear on the general census figures. The census was no doubt of use, if not with regard to its absolute figures, at least for purposes of comparing one decade with another, assuming that they were compiled and classified on an uniform system. That is, although the actual figures themselves might not give a correct guide to the actual prevalence of the occupation to which they referred, they would indicate the periodic variations in that prevalence. The instances Mr. Argyle had given from the English census, and still more from the Irish, did not appear of material importance, because a special mention of the changes made appeared at the beginning of the volume, where there was, he thought, generally a preliminary fly leaf showing the alteration in method which had been adopted since the previous census. The case referred to in Ireland was well known, and was probably notified in all the volumes. The former plan of classing all women otherwise undescribed as being connected with domestic employment was no doubt very unfortunate. With regard to the special economic value of this paper he had only one remark to make: the increase of factory work, although not an immediate cause of increased infant mortality, had indirectly to do with it, because of course increased attraction to women led to over-crowding, and to the gathering round the factories of a large crowd of women who had to find lodgings as best they could before they adapted themselves to the fresh circumstances. That was the case in all the large towns of Lancashire, although there were great differences in the percentage of mortality. But that was only one out of an enormous number of factors which affected infantile or other mortality. Over-crowding must be taken along with the moral conditions to which Miss Collet referred. The mere fact of being employed in a certain group of factories or occupations could, taken by itself,

not in the mind of any statistician he debited with material effect on infantile mortality.

Mr. M. N. Adler drew attention to Table IV in the Appendix, showing the mortality of infants especially in London. It was very terrible to see what a heavy death-rate prevailed in certain districts, and to notice the extraordinary discrepancy there was between the mortality amongst infants in certain parts of London as compared with others. It was satisfactory to find that, dealing with London in its entirety, there was a fall of mortality both for children under 1 and under 5 years, within the ten years ending 1890, of nearly 5 per 1,000. But, on the other hand, though there was this fall with regard to London as a whole, there was an actual increase in some instances. He would merely call attention to one district in particular. In No. 12 (Strand) there appeared to have been a mortality for children under 5, for the period ending 1880, of about 100 per 1,000, and this increased by 10 per 1,000 in the following decade. On the other hand there were some districts which, in the decade ending 1880, showed a pretty high mortality, such as Whitechapel with 95 per 1,000; but in the next decade the mortality in Whitechapel went down to 84. He could not understand this great rise in the Strand district. They knew there were courts and alleys which were very crowded, but of late years many of them had been pulled down, and he thought there must be some special cause at work which created this heavy mortality. It was the duty of sanitary officers, and a task for philanthropists, to see if something could not be done to bring the rate of mortality in these overcrowded districts to something a little more approximating that of the contiguous districts and of other parts of London.

Mrs. Cohen said a high rate of infant mortality is obtained in many London mews, and she thought that this was due to the fact that whereas in the street there were dust-bins and municipal provision for removing all refuse, the mews behind these streets had in many cases no such provision. It was supposed that the people would get the refuse from these small dwellings in the mews removed with the manure when the casual farm carts collected it; but the fact was that the distance of agricultural land from London was now so great that the carts were only sent round rarely, sometimes twice a week, sometimes only once a week, and the refuse was removed in a very unsatisfactory manner. Mrs. Cohen's experience of twenty years of keeping horses in a mews in Marylebone was, that the regulation that it was incumbent on the owner of a stable to secure the removal of manure three times a week is a dead letter. She hoped that point would be pressed on the attention of the County Council.

Dr. Reginald Dudfield said that as a medical officer of health he always looked on the mews in his own district as being some of the healthiest parts of the parish, and that infectious diseases were certainly much less frequent there than in the purely

residential streets. The removal of manure, to which the last speaker referred, should be undertaken not less than three times a week, and if it were not so removed it was entirely the fault of the local authorities. In every district it was directed by bye-law that all manure should be taken away at least once a week. To medical officers of health the most interesting part of the paper was that which dealt with infant mortality. The subject was one of extreme complexity. The author had adverted but very briefly to two or three points which he should like to see emphasised. He had found in his own observation that artificial feeding had a great influence on infantile mortality, more especially in connection with the prevalence of infantile diarrhœa in the summer months. Miss Collet had not given the deaths year by year, but in groups of years. It was a well known fact that the value of statistics based on groups of years was to a certain extent impaired, inasmuch as the grouping of years smoothed away the effects of epidemics. In the present case there was no indication as to the effects of diarrhœa epidemics. Again, where married women were largely employed in factories there came the question of the crêche. The children lost their mother's care during the day and were taken to the crêche. Such treatment favoured the spread of disease, and must more or less affect the infantile mortality. He should have liked to have seen the question of the mortality among illegitimate children in different parts of the country dealt with by Miss Collet. He feared the Registrar-General's reports did not collate the figures for areas small enough to enable the author to deal with that part of the question successfully, but it was of very material importance. Very great improvement in the details of registration of deaths would be effected if medical officers of health were appointed registrars. They wanted scientific men who would take a little trouble to ask a few questions of people when they came to register deaths, and he believed that if medical officers of health were registrars, not only of deaths but of births—for he regretted to say they did not get any information at all as to the births—they would be able to very materially help to elucidate the question of infantile mortality. In conclusion, he might mention that the Society of Medical Officers of Health had the question of the forthcoming census before them, and he thought it would be a very great advantage if the two societies could see their way to work together. He felt quite certain that his Society would welcome any proposal of co-operation on the part of the Statistical Society, for the medical officers of health were very anxious to get more information, and to have it in a more accessible form.

Miss Collet, in reply, said she thought Mr. Humphreys was under a little misapprehension of her meaning with regard to the four-group conditions. She was not suggesting that there should be any further inquiry made on the subject, but that simply when using the material afterwards those conditions should be borne in mind. Indoor domestic servants, for instance, belonged entirely to the fourth group. More information was required with regard

to the persons referred to under the heading of Hotel and Inn service. They included the ABC girls and those at dining rooms, &c., who were not at all under the conditions of hotel servants. What she asked would only involve about three more headings with regard to women's employment in the final classification. Most of those returned as *employed* under the heading of "milliners and dressmakers" belonged to the group of persons living at home and working on their employers' premises. But there was one section in it which ought to be removed from it—the shop assistants. Shop assistants were scattered about under different headings according to the material they were selling, just as some years ago textiles used to be divided up according to whether they were vegetable or animal. With regard to the question of infant mortality and the effects of the crêche, in Lancashire they refused to adopt that system altogether, and therefore it did not enter into the causes of the death-rate. As everyone had rather carefully abstained from destructive criticism, it only remained for her to thank the audience for the kind way in which the paper had been received.

The PRESIDENT (the Right Hon. LEONARD H. COURTNEY, M.P.) said it only remained for him officially to tender his thanks to Miss Collet for her very useful paper. Of course originally the census might be said to have been meant rather as a numbering of the people than anything else, then it proceeded to the causes of life and death, and was further developed into some attempt to exhibit the movement of the social system, the transformation of industries and the general growths of social relations. Mr. Charles Booth and the speaker had served on a committee which was charged with advising the Local Government Board before the last census was taken, a committee which was appointed very largely through the action of the Society, which drew up certain recommendations and enlisted the co-operation of other bodies, just as he hoped in the next census the Society might work with the Medical Officers of Health and with any other parties interested. It was partly in consequence of their recommendations, as Mr. Humphreys suggested, that the new attempt at classification of employers and employed originated. There always must be a considerable degree of difficulty in getting answers to questions which were intended to obtain the domestic facts of social life. He remembered quite well Mr. Carlyle, some thirty years ago or more, when a great agitation was raised as to the distress prevalent in the metropolis, saying that to talk of the 80,000 distressed needle-women was absurd, they might as well call them distressed astronomers. In fact inquiries of the persons generally interested would not always be attended with success; yet they had obtained some facts which were of the greatest value, and he looked forward to the development of the art of census taking, and still more to greater exactness in the answers to census papers such as would give a constantly increasing value to the results arrived at. Sir Robert Giffen had referred to one fact brought out in a recent census of which Miss Collet gave the figure. Her figures showed that the

women employed in agricultural work had decrease from 207 to 21 per ten thousand. That meant really a transformation of society. A gradual withdrawal of women from laborious out-door work was part of the movement which Miss Collet was tracing, and the introduction of women in a more skilled and recognised way into the occupations of life. The truth brought out most effectively by her paper was that the work of women was becoming more and more organised. Miss Petherbridge had brought forward the fact that in the United States women and girls started under the influence of new ideas as to their relative duties in the world. So in active life where formerly there was too much disposition not to train women to work except under the rudest necessity, and where women were encouraged to look forward to marriage as the only vocation in which they could occupy their lives, there was now a new morality which he was glad to think was spreading more and more in each generation, and bringing women to understand that they had some work to do, and that they ought to train themselves for it. With regard to the critical question of the effect on infant mortality of the occupations of women, he must confess he did remain a little doubtful and a little unconvinced as to whether the conclusions which had been drawn were not perhaps rather too large. It might be true, and probably was true, that you would not find the worst rates of infant mortality in the places where you found recognised women's labour as most extensively prevailing; but mortality was due to several causes, and the occupation of a woman was only one factor which might operate to affect the mortality of infants. It might be that when women were most organised and most at work, you would find the other conditions of life so much improved in the matter of the housing and health arrangements, that the infant mortality there might be less than elsewhere where women were not so fully occupied. But they must compare like with like, and he did confess to a feeling that until labour was more carefully guarded —he would not say by legislation but by social morality—there was considerable danger of the occupation of women having a deteriorating effect upon infant mortality. He did not say it necessarily had, because properly organised occupation contributed to health rather than to weakness. But they could not flatter themselves that as yet there was by any means that organisation which would prevent the mischief which, he apprehended, must in some degree prevail.

Poor Relief *in* Scotland: *its* Statistics *and* Development, 1791 *to* 1891. *By* C. S. Loch.

[Read before the Royal Statistical Society, 19th April, 1898.
Sir Francis S. Powell, Bart., M.P., in the Chair.]

The subject which I submit for your consideration is the relief of the poor in Scotland during the century just completed, 1791 to 1891. In analysing and discussing it I propose, in conjunction with historical evidence, to use statistical tests of variations in economic and social conditions. Within the century there has been a revolution in the whole system of poor relief; and the history of this revolution in Scotland has some features of peculiar interest. We pass from methods of relief which are deep-based on the folk customs of the people, to methods highly elaborated by statute and inspection and "instructions." We pass also from a system of charitable relief recognised by the law and administered by the officers of the church, to a system of relief supplied from the rates and administered by elected local authorities. In the process of this change a great variety of plans for the maintenance of the poor come to light. The system of poor relief in Scotland has also several characteristics not to be found in England—differences, for instance, in regard to the treatment of the able-bodied, and of vagrants, and the use of the poor-house.

On Scotland several forces that have affected England also have acted strongly—such as the Irish immigration and the introduction of the great industries, while other forces that have greatly affected the administration of relief in Scotland, have been confined to particular districts or have influenced Scotland as a whole but very gradually. Speaking generally, we seem, indeed, to deal with three communities, each differently and unequally developed, the people of the highlands, the people on the border, and the townsmen of the large burghs; and it has been the task of the century to introduce an equivalence of social conditions throughout these several communities. Of this endeavour the statistics of poor relief are an index.

PART I.—BEFORE 1845.

Folk Charity.

Beneath the requirements of law and statute, there is a web of social custom. It represents the social conscience of the

people, while their laws represent their endeavours after reform, or perhaps only the theories of their legislators. On the social customs of poor relief, or what may be called folk charity, the people relied probably very largely, while the legislative machinery was slowly constructed. The resident poor in Scotland in the last and in the early part of this century, received very small allowances from the poor box, and they were privileged to beg; but they had also a social claim to relief. Old methods of land tenure, such as Runrig and Commonties—the annual allotment of different plots of land to the individual inhabitants of a village, and unrestricted participation in common pastures[1]—and the old system of petty servitudes that preceded rents fixed by contract, lasted late in Scotland. So also did the folk charities and the marriage customs, by which provision was made for the future. They were suited to older economic conditions; but they indicate also the temper of the people, and their sense of social obligation, and even when they became obsolete, they left traces on the national character. They were the groundwork and justification of Dr. Chalmers' constant argument, that no public out-door relief was necessary, because reliance could be placed on "the natural sufficiency that there is among the people" to meet distress by local and neighbourly intervention. The following Yule-tide custom that prevailed in Scotland is of this type of folk charity.[2]

Very often on New Year's day companies of young men in twos, threes, and fours, set out shortly after breakfast to thigg (*i.e.*, beg) for some old woman, or old man, or aged couple, or invalid, who might be in narrow circumstances. Carrying a sack to receive the alms of meat, and a small bag for the money, they travelled over a good many miles of the district of the country in which they lived, getting a "bossiefee" of meal from this guid wife and a contribution of money from that.[3] They sang their request in a begging rhyme; and when the bag of meal became too heavy to be carried conveniently, it was left in some house, and another bag was substituted. By such an action, says the chronicler, "as much meal and money were collected for many

[1] "Commonties" were areas of land over which an indefinite number of persons had various and indefinite rights of use, founded only on customs of ancient origin.—"Scotland as it Is and as it Was," p. 407. By the Duke of Argyle.

[2] "Notes on the Folk-lore on the North-East of Scotland." By Rev. Walter Gregor. This practice is mentioned also in Sinclair's "Statistical Account of "Scotland at Grange, in Banffshire" (vol. ix, p. 577), as "a great support to the "funds;" and see reference to the parish of Alves, in Elgin, in the "Poor Law "Inquiry (Scotland):" Appendix II, p. 507.

[3] Bossie fee, *i.e.*, fee of a bossie or boss or small cask: from *boisson*—a cask for holding wines.

"a poor old worthy as, supplemented by a small sum from the "'peers' box,' kept want from the door, and the heart of the "receiver was filled with gratitude, and the hearts of the doers "with a feeling of contentment."

So the bride provided her "plenishin" or "providan," bed and bedding, household linen, and much other household gear. "It "was," Dr. Chalmers said, "a point of distinction in fact among "our Scottish peasantry to amass a preparation of this sort, which, "on the day previous to the marriage, was exhibited to all the "neighbours." . . . "I think in country parishes that are un-"assessed the habit is in a great measure unbroken; it has now "taken a different direction, partly from this circumstance, that "the practice of preparing what they called home-made cloth has "been exchanged for the practice of purchasing from dealers."[4]

Again, instead of entering a poor house or infirmary or receiving alms, the poor in some places were "quartered" on the families of residents. "There was," Mr. Walter Gregor wrote, "a class of "respectable beggars, whose vocation was not looked upon as "disreputable. Such commonly confined their wanderings to a "particular district of the country, and made their rounds with "great regularity. Within that district there were certain houses "at which they invariably lodged or quartered. Whether male "or female, they were generally welcome guests, and were "hospitably entertained." They apparently were often considered worthy of entertainment, as newsmongers, musicians, herb doctors, or tinmen. In fact, at a time when begging within the parish was legal, they represented professions and aptitudes which are now no longer respected in the beggar or the vagrant. The "quartering" however continued in part of Scotland, *e.g.*, in Shetland, as late as 1844.[5]

Legal Measures.

The first step towards the organisation of poor relief was to legalise and to limit begging. To do this was to control not only the beggar but the giver. Strangers—the non-resident beggars —were to be suppressed. The regular or resident poor were to receive at least part of their maintenance by begging, duly certified thereto by the tokens which they were required to show as their authority.[6] Their begging was limited to the parish in which

[4] Rev. Thomas Chalmers: Minutes of Evidence before Select Committee on the State of the Poor in Ireland, 1830. Dr. Chalmers also refers, as do others, to the custom of providing the grave sheets—an instance of the close connection between the instinct of thrift and of the provision for burial, which has been so beneficial to humanity.

[5] See p. 215, &c., Appendix, part 2, R. Comm., 1844.

[6] Act, 1424, cap. 25 and 42.

they were born, and they were to be sustained within the parish; and none were allowed to beg but "cruiked folk, seik folk, "impotent folk, and weak folk."[7] Such folk were, by a later Act, to be made content, of their own consent, to accept daily, to live "unbeggand," and they were to be lodged if necessary. For these purposes, *i.e.*, for their "needful sustentation," the whole inhabitants within the parish might be taxed yearly "according to "the estimation of their substance, to such weekly charge and "contribution as shall be thought expedient and sufficient to "sustain the said poor people;" and further, "testimonials might "be given to such of the poor as might be judged proper, authoris- "ing them to ask for alms in their own parishes."[8] Thus each parish had the option of assessment or voluntary contributions (in practice the church collections and donations, or a voluntary assessment) with licensed begging to supplement either method.

Licensed Begging.

The most enlightened public sentiment was not then so clearly set against begging as we are inclined to believe it to be at the present time. In 1818 the ministers who reported to the General Assembly[9] were divided in opinion. "Some deprecated its universal and "rigorous suppression as likely to lead of necessity in *their* dis- "tricts to the still more pernicious measure of legal and compulsory "assessments. Many others agreed in the more generally received "belief, that the practice was attended with many most hurtful "effects, both on the best interests of the public and of the morals "of the mendicant: they considered begging as a violation of the "whole provision, purposes and spirit of our poor laws," &c. But even this view was apparently applied rather to the stranger than to the resident beggar, and led rather to limitations than to suppresion. Dr. Chalmers was opposed to "unrestricted "mendicity," but "he did not see why public feeling should "not tolerate the licensing of beggars; it would operate," he thought, "as a corrective influence on the people themselves." "I think it would be well," he said, "to raise a barrier, more "especially as it would bring into wholesome play a number of "principles among the poor themselves. They would not choose "to incur the degradation. And the people could not interpose "to prevent degradation to the worthless, whereas give me a "respectable person who has acquitted himself or herself in a "decent neighbour-like way, and who is the object of kindly

[7] Act, 1503, cap. 70.

[8] Act 1579, cap. 74. See "Dunlop's Parochial Law," 3rd edit., 1841.

[9] Minutes and Report of the Committee of the General Assembly on an Inquiry into the Management of the Poor, 1818.

"feeling among all the neighbours, there would be a very whole-
"some feeling operating to prevent them from assuming a
"degraded position in the eyes of their acquaintance; and what
"from the exertions made by themselves and their relations, and
"their neighbours, they would not be left without relief. I think
"this the most comfortable of all outgoings for the insufficiency of
"the parochial fund. If the parochial fund be insufficient, then
"you set into play and operation such influences among the poor,
"and that in the lowest extreme of society, as will prevent the
"thing rising to an inconvenient nuisance."[10]

The practice was legal, and was in force throughout the country. In Lerwick, "going from door to door was the chief subsistence "of the poor." So throughout Orkney. In Assynt it was "very "much practiced." In Latheron it was rife; in Thurso the poor "could not exist without it." In Ullapool it was "incessant, not "daily, but hourly." In Inverness it was very general. So at Aberdeen, part of the poor could not live except by begging, though the assessment was put on in order to prevent it; and the practice was prohibited. "In Perth," it is said, "mendicants "go from house to house while they are getting relief from "the assessment; Saturday is the principal day; but they go "about every day; and many Irish children beg." It was only permitted, however, on Saturdays.

Passing to the more southern counties, the general evidence seems to point to less begging—except in Glasgow and Edinburgh, where it seems to have been but little regulated. Elsewhere are such entries as these: "In Dumbarton many paupers go about "begging on Saturdays to the houses of private individuals; it is "a tacitly recognised mode of subsistence." "The poor of Kelso "are allowed to beg on Saturday; a few go regularly to certain "shops where they are counted customers, and get a halfpenny "from each; those beggars have 2*s.* to 2*s.* 6*d.* a week allowance; "they could not subsist without begging."[11] And efforts were made to ensure even closer regulation. Thus one kirk session, that of Stow, in 1596, laid down that the poor were to have "three hours granted them every day to go through the town to "seek their meal: one hour in the morning from 9 to 10, at "midday from 12 to 1, and at night from six hours forth." At St. Andrews the poor were sent through the town under the inspection of the elders; and the Synod of Glasgow and Ayr, 1771, urged that those who stood in need of relief and could not be maintained by their own labour and the public funds of the

[10] Dr. T. Chalmers, Minutes of Evidence taken before Poor Law Inquiry Commission for Scotland, 25th March, 1843. Appendix, part 1.

[11] "Analytical Index: Poor Law Inquiry, Scotland, 1844."

parish, should ask only of such neighbours as are members of the congregation to which they belong, "this being necessary to "distinguish real from pretended objects of charity.[12]

The system of relief to which the figures for 1791-98 refer and the tables of 1835-37, and 1842, must be considered in the light of this statement; and it must be remembered that the years 1842-43, to which most of the above evidence refers, followed a year of considerable distress. In the discussions that came to a head in 1844-45, the inadequacy of the existing method of relief was insisted on; the duty of introducing assessments was urged, because by that means adequate relief would be provided, and until that was done begging, it was said, was not only justifiable but necessary.

The Kirk Session and the Heritors.

In 1597 the administration of poor relief was placed in the hands of the kirk sessions. In 1672 this arrangement was confirmed, and the heritors, who had previously been empowered to levy assessments for employing vagabonds and idle beggars, were associated with the kirk sessions in this work.[13] In 1690 the Act was passed by which the Presbyterian divines who had been pastors in the days of the Covenant were restored to their parishes.[14] They formed the ministry of the Established Church, and, with some exceptions in the case of towns, they, with the kirk sessions and the heritors, managed the public poor relief of Scotland till 1845. The organisation was ecclesiastical. By the first book of discipline (1560), of which John Knox was probably the chief author, and which had been approved by the general assembly of the church and signed by many members of the Privy Council, though not formally approved by the civil authorities, the ecclesiastical position of the elders and deacons was defined. The elders were elected, at first, it would seem, annually, from among the "men of best knowledge "in God's Word, and cleanest life, men faithful and of most "honest conversation that can be found in the kirk;" and amongst other duties they had to assist the ministers in all public affairs of the kirk; "to wit, in determining and judging "causes, in giving admonition to the licentious liver, in having "respect to the manners and conversation of all men within their "charge"; they had also to receive the church rents, and "gather "the alms of the kirk and distribute the same, as by the "ministers and kirk shall be appointed." The office of deacon

[12] Evidence of Rev John Lee, D.D., Appendix, part 3, Poor Law Inquiry (Scotland), 1844.

[13] Dunlop, p. 446.

[14] Macaulay's "William and Mary."

fell into abeyance.[15] The elders, on the contrary, exercised immense influence for more than a century.

The kirk session consisted of the ministers of the parish and of the elders, seldom so many as ten or twelve. They held office for life. They received no remuneration. Vacancies in their number were filled up by the kirk session. Three formed a quorum—two being elders.[16] The kirk session was an ecclesiastical court, and had jurisdiction in the parish, though it could not enforce at law the payment of fines for offences against church discipline.[17] In matters of relief the heritors and kirk session acted subject only to the supreme civil court. On the questions "whether claimants for parochial aid were of the description of "persons that are entitled to such relief, and if so, what the "amount of the assessment and relief should be?" their decision was, subject only to such an appeal, final.[18] The principle of local responsibility was thus strongly emphasised; and the position of the heritors and kirk session was assured as a court, (1) "to take "up" the lists of the poor; (2) to levy funds for their support; (3) to order and dispose of the maintenance of the poor.

The heritors are the landowners of a parish; and by a judgment of 1751, it was settled that they had a joint power with the kirk session over all funds belonging to the poor of the parish, sums levied by assessment, collections, and mortifications, or endowed charities. Usually the heritors and kirk session met once a year to plan the financial arrangements of the year and to raise the necessary funds, supplementing, if necessary, by assessment or voluntary assessment the church collections and mortifications, voluntary contributions and other small sources of revenue. The ordinary work of relief the heritors generally left to the kirk session. Thus, while the heritors and kirk session combined in order to raise the necessary funds, the latter had a double portion of influence. It administered the relief, and its members, the elders, had both a legal public status and an ecclesiastical position, and were entitled not only to relieve distress, but to supervise manners.

The Limitations of Relief before 1845.

By the law of Scotland before 1845, and indeed after that time, the following classes of poor were considered entitled to parochial relief:—(1) Poor persons of 70 years and upwards, or under that age if so infirm as to be unable to gain a livelihood by their work; (2) orphans and destitute children under 14 years of

[15] "The Books of Discipline," pp. 64, 66. Edinburgh, 1836.
[16] Report of General Assembly, 1839. [17] Dunlop, p. 89.
[18] Dunlop, p. 457, Judgment of 1821.

age; and (3) all who, from permanent bodily disease and debility were unable to work and "must of necessity be sustained by alms." "No person was entitled to permanent relief who was able to "work so as to gain a livelihood;" but destitute widows had, it was stated, always been relieved if and in so far as they could not support their family by their labour.[19] The relief was limited to "needful sustentation," and "if there were any relations bound "in law to support" the applicant, "his claim against such relation "had to be made good; or even if there were any neighbours or "charitable persons willing to do so the parish had to stand aloof." "The allowance must," it is said, "be scrupulouly proportioned to "the actual necessities of the individual, so as to make up, along "with his own means, or with what may be bestowed on him by "others, the sum required to prevent the necessity of his begging "his bread."[20] Thus the obligation of relieving the applicant, even when admitted, was imposed as far as possible on his relations or neighbours, and on the charitable—another point to which full weight must be given in considering statistics of relief and expenditure before 1845. It was claimed that the method of small allowances and partial relief "prevented improvidence, and "while it encouraged industry in the young and able, induced "them to lay by for the time of sickness and old age." "Instead "of impairing the benevolence of neighbours and relations, it had "the effect by relieving them of part of the burthen, to prompt "and promote their charity." "It afforded an opportunity of pro-"portioning public charity to the character of paupers," and "it "afforded facilities for reducing gradually the number of paupers "in a parish by a strict examination of the circumstances of each "case."[21]

In the larger town districts, quarters or "proportions" were often assigned to the elders, *e.g.*, at Paisley, Greenock, and Montrose;[22] and in parishes in Glasgow and Edinburgh a system of subdivision was adopted in this century on Dr. Chalmers's lines.

The poor who received relief were "enrolled" or placed on the roll as "ordinary" poor; or they were entered as "occa-"sional" or "industrious." The former were recognised as permanent claimants for relief under the categories above mentioned. The latter were considered to have no right to relief, nor could funds raised by assessment be expended on them;[23] but they were

[19] Dunlop, p. 358.

[20] "Remarks on the Poor Law in Scotland." By David Monypenny, Esq. (afterwards Lord Pitmilly), 1834.

[21] Monypenny, p. 50.

[22] "Historical Dissertations with regard to the Poor," p. 21 and elsewhere. By Rev. Robert Burns, 1819.

[23] Dunlop, p. 360.

helped as "occasional" poor on account of temporary sickness or distress, and sometimes with a view to their being kept off the roll as long as possible. The distinction between enrolled or registered poor and unregistered, or, as they were more recently called, "casual" poor, was retained in the reports of the Board of Supervision till 1890. Originally it indicated yet one more safeguard against pauperisation, and implied that one class of claimants was assisted occasionally, not out of any legal right to relief, but by reason of the charitable nature of all, or at least a large part, of the funds usually at the disposal of the kirk session.

Statistics of Scotland before 1845.

1791-98.

The earliest systematic statistics of Scotch pauperism are contained in Sir John Sinclair's Statistical Account, which was compiled and published between the years 1791 and 1798. These statistics are contained in the accounts furnished by the ministers in regard to their parishes. For the purposes of this paper they have been extracted parish by parish and arranged according to counties; and other data which are to be found in the Reports of Committees of the General Assembly, and in the Appendices of the Report of the Poor Law Inquiry Commission (1844), and were classified in these documents according to parishes, presbyteries, and synods, have also been reclassified here according to counties. In the Statistical Account the ministers in many instances have stated only the number of the enrolled poor, and in some they give no figures at all. In Table B, 1791-98, accordingly, only the enrolled poor are entered with the population of those parishes only which make returns. The reader may see from Table A what parishes are omitted in each county and what is their population, and he may thus check the data contained in Table B. He will find the following general results :—

TABLE A.—1791-98.

Col.		Totals.
2.	Population of Scotland	1,526,514
4.	Number of parishes reporting	878
5.	„ whose reports contain no statistics of pauperism	265
6.	Population of these parishes	453,092
7.	Number of parishes whose reports contain statistics of pauperism	613
8.	Population of these parishes	1,073,422

The statistics of some important city parishes are wanting—Ayr, Irvine, Greenock, Renfrew, Glasgow City, Edinburgh, Dunbar, Perth, Elgin. These have to be provided, so far as may

be, for other dates, and from other sources; otherwise the omitted parishes are nearly all rural. They are most numerous in the counties of Perth, Aberdeen, Inverness, and Fife. Out of a population of 1,526,514, returns are available for a population of 1,073,422, resident in 613 parishes. The figures may, I believe, be taken as indicating with sufficient accuracy the extent of pauperism in Scotland generally, apart from the chief towns. They represent practically a day count of permanent paupers. The relief given to the "occasional" poor, especially in the country, was very small, and the ministers in their reports thus very naturally omitted to mention it, and, treating it as incidental and immaterial, may indeed have been unable to furnish details of its distribution.

The Statistical Account thus gives the following results :[24]—

1791-98.

Population in 613 Parishes.	Enrolled Poor in 613 Parishes.	Ratio per 1,000 of Paupers to Population.
1,073,422	19,498	18·16

1807-16.

In 1818 a committee of the General Assembly "transmitted "queries to the ministers of parishes, asking them what was the "number on the poor's roll of the ordinary poor (specifying males "and females respectively) who can earn nothing for their own "maintenance, but are supported wholly from the Poors' Fund."[25] They asked also, "What is the number of the industrious (*i.e.*, "occasional) poor, who, during the last ten years, have received "regularly partial relief from the kirk session, though in general "able to earn a proportion of maintenance for themselves and "their families." Great exception was taken to the returns in this report on account of obscurity in the questions and inaccuracy in the compilation of the statistics; but the abstracts were revised and published in 1820, and found by Chalmers to be accurate.[26]

In these returns "enrolled" and "occasional" poor are not distinguished.

[24] See Table B.

[25] The question does not seem very happily worded, since most of the enrolled poor received help from other sources than the poor's fund; nor is the form of the question that follows much better.

[26] Burns, p. 155, writing in 1819, and Chalmers, Irish Evidence (1830), Q. 3354. He says, "These latter abstracts (the new abstracts) I have found to be "quite accurate, as far as I have compared them with the original communications "of the Scottish clergy."

They give the following general results :—

Year.	Population.	Paupers.	Ratio per 1,000 of Paupers to Population.
1807–16	1,764,987*	44,199	25·04

* This is the population of Scotland, less 36,290, the population of forty parishes that sent in no returns, and 4,411 local militia on duty when the census was made, and not included in their respective parishes.

If one may judge from the questions above quoted, the entry "paupers" should include both "enrolled" and "occasional" poor, but the number—44,199—compared with the figures given below for 1835-37 and for 1842, suggests that the enrolled poor only are entered in this return.

1835-37 *and* 1842.

Another committee of the General Assembly issued a report in 1839. It contains statistics of the paupers on the permanent roll, lunatic paupers, and those receiving occasional relief in the years 1834-36; totals are given of each class in those years, with averages for the three-years period. Particulars as to expenditure are also supplied. The information is furnished according to parishes arranged in synods. It has been extracted and arranged parish by parish in counties. In 1843 the Commission of Inquiry obtained particulars as to the number of permanent and occasional poor in the parishes in the year 1842. These data have also been arranged according to counties. Excluding therefore the occasional poor, we may make a table of the enrolled or permanent poor in the parishes for the period 1791-98, subject to the limitations above stated, for the average of the years 1835-37 or for any one of these years, and for the year 1842.

SCOTLAND: 613 *Parishes.** *Enrolled or Permanent Poor and Population.*

Year.	Population of the Parishes.	Enrolled Paupers.	Ratio per 1,000 of Paupers to Population.
1791–98	1,073,422	19,498	18·16
1835–37 (average)	1,691,381	44,838	26·50
'42.....	1,905,873	45,258	23·74

* See Table B.

With these figures we may compare the returns of pauperism

for England and Wales for 1802-03 and 1815.[27] From the returns for Scotland and from the following table "dependants" are omitted, and only the permanent poor are included.

ENGLAND AND WALES: *Permanent Poor and Population.*

	Population.	Persons Relieved in Workhouse.	Permanently out of Workhouse.	Total.	Ratio per 1,000 of Population.
1802–03....	8,872,980*	83,468	336,199	419,667	47·29
'15	10,163,676†	88,115	406,748	494,863	48·68

* Population, 1801. † Population, 1811.

Those in receipt of permanent relief in England thus numbered in 1802-03 and 1815 47·29 and 48·68 per thousand of the population. The figures for Scotland give 18·16, 26·50, and 23·74 per thousand for 1791-98, 1835-37, and 1842 respectively. These figures are for different years, and the first of them represents in the main the pauperism of the country and not that of the towns. Yet the comparison is valuable, for the returns, though for different years, refer only to the permanent and therefore continuous pauperism of the two countries, that indeed which is more or less carried on from year to year.

Making all allowances, the figures for Scotland suggest a considerable growth of pauperism in the fifty years between 1792 and 1842 in the 613 parishes in regard to which our information extends from 1792.

The returns however for 1835-37 and 1842 can be put to further use. In them the occasional as well as the enrolled poor are given. Accordingly we can ascertain from them the number of both classes of poor in Scotland in those years, but with one drawback. From the census of pauperism for the years 1834-46 are omitted twenty-two parishes that made no return. They represent a population of 67,230 persons. To make the comparison between

[27] See Marshall's "Digest of Information from Parliamentary Documents." Besides 419,667—the number of those relieved permanently, the return (1802-03) gives also the number of children dependent on those permanently relieved, in and out, namely, 315,150. The total in receipt of permanent relief is thus 734,817, including children. The occasionally relieved number 305,899; and it is assumed that these are heads of families only. Non-parishioners relieved number 194,052. Including these and assuming that each head of the family who receives occasional relief has on an average three children, the proportion of paupers to population is about 28 per cent. according to Marshall's calculation. In 1815 those in receipt of "occasional relief" number 400,473.

It is difficult to compare the English and Scotch figures set out in the above table with certainty. In the English figures wives would be included, in the Scotch they would probably be excluded, as "dependant" and not placed on the roll. This would reduce the difference between the English and Scotch figures.

1835-37 and 1842 accurate, these parishes have to be omitted also from the census of pauperism made in 1842. They had then a population of 73,211. But from the enumeration of 1842 another twenty-eight parishes, that were included in the statistics for 1835-37, have also to be excluded, since in 1842 they made no returns. In regard to these it seemed best to repeat in the statement which I have compiled for 1842 the figures for 1835-37. All the parishes in question are noted in Cols. 8, 9, 10, and 11 of Table C. Among the parishes the figures of which have been repeated are Dundee, Perth, North and South Leith, Galashiels and Kinross; all the rest are rural or comparatively unimportant:—

SCOTLAND: 857 *Parishes.**

Year.	Population of Parishes.	Enrolled and Occasional Paupers.	Ratio per 1,000 of Paupers to Population.
1834–36	2,297,158†	80,011	34·83
'42.....	2,546,974	81,702	32·07

* See Table C. † Census of 1831.

These figures indicate an improvement, which affected the whole of Scotland except Dumbartonshire, Dumfries, and Wigtownshire. In Dumbartonshire pauperism rose from 23 to 29 per thousand. In Dumfries from 42 to 65; and in Wigtown from 28 to 29.

We have no returns of pauperism in England and Wales for 1831 and 1841, with which we can compare the figures in the above table, but we can compare the expenditure of the two countries.

The expenditure on the poor in Scotland is returned as follows:—

SCOTLAND: *Expenditure on the Poor*, 1806-16, 1835-37.*

Year.	Collections at the Church Doors.	Other Voluntary Contributions.	Sessional Funds.	Assessment.	Expense of Litigation.	Gross Funds.	Expenditure per Head of Population
	£	£	£	£	£	£	s. d.
1807–16..	34,069	10,702	19,705	49,718	1,977	116,171	1 $3\frac{3}{4}$
'35–37..	38,300	18,976	20,604	77,239	921	156,040	1 $3\frac{1}{4}$

* Scotland. Population, 1811, 1,805,688; population, 1831, 2,364,383. The figures are taken from the "Reports" of the General Assembly, published in 1820 and 1839.

With these totals we may compare the poor law expenditure of England and Wales :—

ENGLAND AND WALES: *Expenditure on the Poor*, 1813, 1832.*

Year.	Expended on Relief of the Poor.	Expenditure per Head of Population.
	£	*s.* *d.*
1813.....	6,676,105	13 1½
'32.....	7,036,960	10 1½

* England and Wales. Population, 1811, 10,163,676; population, 1831, 13,889,675. The figures are taken from Marshall's "Digest."

Economic Conditions and Changes.

Scotland in 1792 was still a comparatively poor country, and years of scarcity pressed heavily on it. Yet the independence of the poor was remarkable, especially when it was contrasted with their condition in England and Wales. This may in great part be accounted for by differences in methods of administration and partly by economic differences. To these causes also must be in great measure attributed the changes introduced by the Scotch Poor Act of 1845, which, at first sight, seems so unnecessarily to have altered a system, which only a few years before was constantly mentioned by Englishmen with admiration and by Scotchmen with pride. Hence a short sketch of economic conditions and changes in Scotland during the earlier part of the century is indispensable. Scotland may be divided into three main sections. There are the Highlands, and especially the west coast, the scene of a series of economic convulsions. There are the Midland counties, the central industrial area, in which the development of manufacture, commerce, and mining acted as a powerful attraction to migrants and immigrants. And there are the border counties, where zeal for the improvement of land and farming made itself felt earlier than in the north of the country, and where the advance was, as contrasted with that in the Highlands, constant and solid.

The Years of Scarcity.

Scotland was a comparatively poor country, and years of scarcity, if we may judge from the Scotch records, must have taxed the energy of the people of Scotland far more than did similar years in England; and changes in assessment are traceable in part to the effects of these years. Bishop Coplestone has shown to how large an extent poor law legislation in England has been

the result of economic pressure.[28] The story of the growth of assessment in Scotland tells a similar tale.

The Act of 1672, as we have seen, made legal assessments permissive. They were however hardly anywhere enforced till 1740, when they were adopted in some counties and particular parishes, in order to oblige absent heritors to contribute their share towards assisting the poor in their distress.[29] In the Synod of Merse and Teviotdale, including Berwick, Selkirk, and Roxburghshire where in a few parishes assessments were introduced as early as 1725, of thirty-six parishes of which we have information, seven adopted them between 1740 and 1750; and seven between 1766—in which year there commenced a series of precarious harvests—and 1776.[30]

In 1766 there was a parching drought during the whole summer, which affected all the south of Scotland. At Lauder (Berwickshire) two-thirds of the cattle were slaughtered at Martinmas and sold at $\frac{3}{4}d.$ a pound.[31] A note made in regard to this in 1792 shows the nature of one of the changes that was taking place to mitigate the effect of such contingencies in the future. "Since that time (1766) in consequence of the cultivation "of turnips and grass, there has been plenty of the best beef and "mutton through the whole year."

In 1782-83 there was great distress, to meet which, through Sir John Sinclair's influence, a government grant of 15,000*l.* was made. It affected the whole country. At Far, in Sutherland, the people killed the few cattle they had and eat their flesh without bread or salt. Many left the parish and went to other places for employment. At Bathgate, in Linlithgow, many were admitted on the poors' list who before that period supported themselves, but ever afterwards needed assistance. In consequence of the increased number of necessitous poor a heavy annual assessment was laid on the parish.

After the close of the century we may note 1808-12 as years of scarcity or at least of high prices in consequence of the war. In 1817-18 there was such distress that extraordinary collections were made in Edinburgh and in many counties.[32] There was great depression in 1826; 1831 was the cholera year. The years 1836-37 (when a large charitable collection was made throughout the country for the assistance of the Highlands) were bad; and 1839-42, and especially 1840-41, were years of great adversity. In

[28] Second letter to the Right Hon. Robert Peel, M.P., on "The Causes of the "Increase of Pauperism and on the Poor Laws," 1819.

[29] Burns, p. 303.

[30] Report of General Assembly, 1839. See later as to the relation between dissent and the imposition of assessment.

[31] "Sinclair's Statistical Account," I, p. 76.

[32] Report of General Assembly, 1818.

1841 there was a Prince of Wales's Fund, collected in response to a letter from the Queen in commemoration of the birth of H.R.H., and in consequence of the prevailing distress a sum raised in Edinburgh for illuminations was applied to the relief of destitution in connection with this fund.

In 1840, as a natural close of this catalogue of bad years, we find that in March there was instituted in Edinburgh the association for obtaining an official inquiry into the pauperism of Scotland, on the list of the committee of which are many well-known names, and amongst them that of Sir John McNeill, the future chairman of the Board of Supervision.

The Improvements of Industry.

While through years of difficulty there was this gradual movement towards the more official organisation of poor relief, there was an application of energy to the development of the resources of Scotland, which was the only real safeguard against want.

A first line of defence was education. The compilers of the first "Book of Discipline" had insisted on the necessity of schools, "seeing that God had determined his Kirk here on earth should "be taught not by angels but by men;" and they "of necessity "therefore judged it, that every second kirk have one schoolmaster "appointed;[34] such a one at least as is able to teach grammar and "the Latin tongue, if the town be of any reputation." In country districts the duty of teaching was assigned to the reader or minister. Accordingly throughout Scotland there was a system of public instruction, supported, like the administration of relief, by the Kirk and Heritors; and however defective it might be in some parts, it without doubt made the people far more competent to combat economic difficulties. Two instances may be given: Dr. Alexander Carlyle, riding from London to Edinburgh in 1759, found a Scotch gardener and land steward in charge of the Duke of Portland's estate at Bulstrode—"such advantage was there in "having been taught writing, arithmetic, and the mensuration "of land, the rudiments of which were taught in many of the "country schools of Scotland. This man gave us a note to the "gardener at Blenheim, who, he told us, was his countryman, "and would furnish us with notes to the head gardeners all the "way down." Most of the head gardeners of English noblemen were at that time Scotch.[35]

A people thus educated had, as it were, been prepared for

[33] See Constitution of the Association, 1840.

[34] Chap. vii of the "First Book of Discipline."

[35] "Autobiography of Rev. D. Carlyle," p. 362, published in 1860.

successful emigration—one of the chief remedies that was to relieve a part of their country from economic embarrassments.

The other instance suggests what was then the substitute for the education which educational reformers would now foster by polytechnics and continuation classes. Sinclair publishes a letter written by Robert Burns to his friend Robert Ridell. Burns had then a farm at Dunscore (Dumfries), "a gentleman well known "for his poetical productions, who rents a farm in this parish," and whose opinion is reported "that the west country cows give a "larger quantity of milk." Burns describes the circulating library that had been started in the parish—each member paying 5*s.* entrance fee and 6*d.* a month afterwards. After mentioning the names of some of the books, he writes: "A peasant who can read, "and enjoy such books, is certainly a much superior being to his "neighbour, who, perhaps, stalks beside his team, very little "removed, except in shape, from the beast he drives."[36]

Inventions probably suggest with tolerable accuracy the lines along which industrial energy is preparing to move. They both meet and expand demand. The new Scotch plough was invented in 1763 by James Small, and two horses thereafter did the work of eight to twelve oxen. In East Lothian Meikle invented the threshing mill in 1786. The advance in the making of new roads —the turnpike roads and bridges—is noted by most of the ministers in the "Statistical Account." With this change was allied a reform of the methods of farming. In many parishes the heritors were busy with enclosing, draining, and planting. They were abolishing or commuting multures, thirlages, and other servitudes, and were uniting the small farms, a process that on the border seems by 1792 to be well advanced. The country population was thus decreasing, while the villages were increasing.[37] Good stone or brick houses were being built on the villages and farms, and slates were used instead of thatch. Both rents and wages were rising. The standard of comfort was said to be considerably higher. In 1768 Watt patented his steam engine. From the Border counties as from the Highlands there was migration to manufacturing centres. New manufactories for linen, woollen, and cotton goods were opened. A note in regard to Lanark is significant of a movement that affected all or most of the large towns. "A large proportion of "the inhabitants of New Lanark are Highlanders from Caithness, "Inverness, and Argyllshire; 200 emigrants from Skye to North "America were driven into Greenock in 1791, and put ashore in a

[36] "Statistical Account," vol. iii, p. 596.

[37] *Cf.* in *Dumfries*—Langholm, Dornock, Applegarth, Urr, &c.
„ *Roxburghshire*—Crailing, Oxnam, Hounam.
„ *Berwick*—Swinton, Coldingham.

"destitute condition. A proprietor of cotton works offered them "employment, notified to families in Argyllshire and the Isles "what encouragement was given to families at his works, and in "1792 undertook to provide houses for 200 families." Thus owing to the enlargement of the farms there was expulsion from the rural districts to the villages, and at the same time by reason of the manufactories there was an overwhelming attraction to the towns.

By the side of the statement respecting New Lanark, another may be placed that has reference to Mauchline, and it again may be contrasted with a quotation respecting the condition of the poor at Tongue in Sutherlandshire. Thus three sketches of the state of the poor in Scotland, which it is essential to bear in mind, will be put before the reader. The Rev. Wm. Auld is the reporter in the case of Mauchline. He is the minister of whom Burns rhymes so disrespectfully as "Daddy Auld" in the "Kirk's Alarm."[38] He wrote that a deficit of about 10*l.* a year upon the poor relief account was "made up by an assessment, unanimously agreed to by "the heritors at a meeting in 1771, who, in order to prevent "begging in the parish, assessed themselves in a sum amounting to "22*l.* 10*s.* 10*d.* per annum, one half of which is however payable "by the tenants. This increased the poors' stock for the time, "but as the fund is gradually decreasing, in consequence of the "number and necessities of the poor . . . a new assessment is "required. It must be obvious to everybody that according to the "present mode the burthen of maintaining the poor is most "unequally divided. It falls almost entirely on tenants, tradesmen, "servants, and charitable persons attending the church, while "other people, however rich, particularly non-residing heritors, "whatever their income may be, contribute little or nothing to the "charitable funds of the parish. Hence there is, in general, ample "ground for the common observation, 'that it is the poor in "Scotland who maintain the poor.' It must be confessed at the "same time that it is very difficult forming a plan that would "provide for the poor without encouraging in them either "inattention, indolence, or waste." Auld speaks of the great works carried on by the Ayr, an iron-work at Muirkirk, and a cotton mill at Catrine, and he finds "the manner of living and dress "much altered from what it was fifty years ago." Now one-half of the parish use tea daily, and almost the whole use it occasionally,

> Daddy Auld, Daddy Auld,
> There's a tod (fox) in the fauld,
> A tod meikle waur than the clerk;
> Tho' you dinna do skaith,
> Ye'll be in at the death,
> And if ye canna bite, ye can bark."

and good twopenny strong ale and home spirits have yielded to "foreign spirits, new punch, and wine." "As to dress, about "fifty years ago there were few females who wore scarlet or silk."

The complaint as to the excessive drinking came from many parishes. Its extent is described as "incredible" sometimes.

In 1790 the Forth and Clyde Canal was opened. In 1803 the Caledonian Canal was commenced, in order to give employment to the Highlanders, and in part to prevent emigration to Canada.

The Sheep Farms.

The nation was at war from 1792 till 1815, with hardly a break. Yet this seemed but to hamper, it did not arrest, the development of the resources of the country. Sir John Sinclair, whose "Statistical Account" we have analysed from the point of view of poor relief, seems to represent the activities of the age in his untiring energy and the multiplicity of his interests. He was a member of the African Society, which was to find new outlets for our trade. He raised two regiments to serve in the war—one of the methods by which employment was found for the large highland population in the northern counties and the isles; and in spite of much lukewarmness on the part of the Government, he induced them to create a Board of Agriculture. It was probably in this department of work that he influenced the future of Scotland most deeply. One of his achievements was the institution of the British Wool Society.[39] In 1787-88 the import of wool rose to upwards of four millions, while British wool was deteriorating in quality. The society was established to improve it. There was in Scotland as fine grass for sheep as any in the world. Among the mountains of the Highlands there were then but few sheep walks, and in the south on the border there was ample pasturage on the Cheviot Hills. But sheep that would produce a better staple of wool had to be bred, if these advantages were to be turned to account. Eventually, after much investigation and experiment, a breed of fine-woolled hill sheep of the East Border was selected as likely to thrive in the Highlands, and to it Sir John gave the name of Cheviot. By 1837 there were, it was said, 300,000 sheep of this breed in the four northern counties of Scotland alone. The effect of the introduction of this sheep was to make useless mountains valuable. The change affected the whole of Scotland indirectly; in the northern counties it made an economic revolution. As evidence of the exact nature of the change and of the population on which it acted, the following

[39] "Memoirs of Sir John Sinclair, Bart.," vol. i, p 219.

statement in reference to the parish of Tongue, in Sutherland, may be quoted:—

"There is a good deal of begging in the parish. The poor on "the roll go about begging from place to place. Many do so "with difficulty, they are so old and weak. However they must "do it, for if they are debarred from this means of subsistence "they would starve. If any of the poor people are confined with "sickness, the elders are very useful in calling the attention of "their wealthier neighbours to the case. We have too often, "likewise, beggars from the neighbouring parishes. These beggars "are generally old people—at least above 60 years of age; and "they are usually on the roll of their own parishes. Formerly, "ministers in this part of the country used to give general cer- "tificates of begging, which would have been a kind of passport "in other parishes. However, the aged poor go beyond the bounds "of their own parishes and beg without such certificates. We "have a considerable number of day labourers in this parish. "Almost all middle aged persons have some bits of land, for "which they pay 3*l.* or 4*l.* or 5*l.* for rent; but those bits of land "are not large enough to maintain them, they are all obliged to "have recourse to day labour to eke out a subsistence. Their "usual diet, when they can get it, is porridge and milk, especially "in the spring season, when they begin to work; but they cannot "always afford meal, especially in winter, and they then live on "potatoes and herrings, if they can get herrings. The paupers "on the roll get a little thick gruel, or some barley bread or "potatoes. They do not get milk unless helped by their neigh- "bours. The people are a very honest people, and very temperate "in their habits, although their poverty may contribute to "this.... There is no want of will on their part to work, but "remunerating employment is not to be obtained. I remember "very well the change which took place under Lord Reay, in "removing them from the interior, and from every good spot of "land, and transplanting them to barren tracts of land along the "sea shore. The change took place in 1806.... There is more "money about us now, but there is much more poverty and not "the same substantial comforts as formerly. It is true that when "they were in the interior, they were as badly off in seasons when "their cattle died. They used to subsist principally upon flesh, "milk, butter, and curds and cream. They used no vegetables. "They had a few spots of oats and bran, but they bought very "little meal. Potatoes were only introduced when I was a child, "and now it is their general food. In the years of distress they "were thrown upon the resources of the proprietors." ... "We are "certainly too populous under the present system of sheep farms."

. . . "The people are pretty well educated as a peasantry." . . "The late secession" (this evidence was given in 1843) "from the "church will affect most materially the church collections. The "great bulk of the population adhere to the free church. Out of "a population of 2,031, I do not believe that 50 adhere to the "establishment. I do not see how it will be possible now to "dispense with an assessment for the aged and infirm. I have "always entertained an apprehension of assessments, inasmuch "as they have a tendency, in my opinion, to weaken the spirit of "independence in the people, and make them rely on others for "support. The spirit of independence among the poor has fallen "off within my recollection. Those come to me for aid whose "fathers and other relations would have spurned the idea. As we "have had no assessment in our parish, I cannot attribute this "weakening of independence to assessment. I attribute it to the "general deterioration in the condition of the people. However, "I think that it is absolutely necessary that the impotent poor "should be relieved by an assessment." [40]

I have quoted this at length, because it gives a picture of social conditions which explains in a great degree the statistical returns of pauperism then and subsequently in the north of Scotland, and also touches on several other points of importance that must be dealt with later on.

There was another side to the question. The change, another witness said,[41] "brought considerable hardship at first on the people; "but they came to find that they lived better on wages from the ', sheep farmers and the corn farmers (for the same thing took "place as to corn) than they had done before as holders of land; for "they could make nothing of it; and the vast extent of moor- "ground did not yield a thousandth part of the human food that it "does now for cattle and sheep. I should say that for one animal "that was produced under the old system, perhaps fifty or a hundred "are now produced. It is a very singular fact that where only a "few ill-conditioned cattle were reared, the multitude of sheep now "fed is quite extraordinary, and also the additional number of cattle "turned out; so you may look on the sheep as a new product of the "soil. For a time the people were very ill off, and, in consequence, "considerable riots occurred. One year they drove the sheep out "of the country; and I think there were some justiciary acts in "consequence. It must have been about the end of the century, "in 1794 or 1795."

[40] Rev. H. M. McKenzie, parish of Tongue. "Poor Law Inquiry (Scotland)," Appendix, part 2, p. 296, 25th August, 1843.

[41] Sir G. Mackenzie, Bart., a heritor in West Ross-shire. "Poor Law Inquiry "(Scotland)," Appendix, part 3, p. 891, 12th February, 1844.

The sheep added to the rental, improved the land and endowed the landlord with means for enclosing and draining. It was indeed a "new product of the soil." An estate which used not to yield 300*l.* a year, was now sold for 50,000*l.* The estate of Reay, which consisted mainly of sheep farms and covered nearly one-half of Sutherland, had previously produced 1,200*l.* to 1,500*l.* a year; it now sold for 300,000*l.* The change probably affected most severely the west coast from Cromarty to Mull, the Isles, and that coast whence come the names of Arthur Hugh Clough's hexameter: "Knoydart, Moydart, Morrer, Ardgowan, and Ardnamurchan" (and further north to Assynt and Ullapool). Here accordingly we should expect to find, and in fact do find, a higher rate of pauperism.

The Kelp Manufacture.

On the west coast and the islands the kelp manufacture had already disorganised society. Kelp, as probably most people know, is a substance obtained from seaweed. It yields 5 per cent. of its weight of alkali or soda. The demand for it was due to the fact that high duties had been imposed on barilla and salt, so that, though soda could be obtained more easily through their agency, yet in consequence of the high duties they could not be utilised for this purpose with profit. The manufacture became important about the year 1778. The yield of it amounted to about 20,000 tons a year; and during the war it sold sometimes for 20*l.* a ton.[42] In 1842 it had dropped to 30*s.* a ton. In the process of collecting and melting the weed irregular employment was given to a vast number of people.

The Highlands were already in 1755 well peopled. The kelp trade brought a comparatively easy means of livelihood to their doors. It made them relatively rich, while they had neither an outlet for spending nor the trained will that can spend properly.[43] The kelp paid their rent; early marriages became customary, and the population increased apace. The farms were subdivided among crofters; and the race of cottars, settlers practically tenanting cabins but paying no rent, sprung up. Husbandry was neglected or impoverished by the subdivision of the land, and indolence became more than ever the characteristic of a people, whose means of living were thus suddenly expanded in a strange and artificial manner in consequence of the imposition of certain duties by the central government, while they themselves remained penned up on their coasts and islands.

[42] McCulloch's "Commercial Dictionary."

[43] As to Tiree, letter addressed to the Chairman of the Royal Commission on the Highlands and Islands by the Duke of Argyll, 1885, and "Scotland as it Was" and as it Is."

The tendency to recklessness was aggravated. The expenditure on a marriage or a funeral was often the ruin of a family, it was said; and to make recklessness more easy the people could rely on a diet of potatoes reared at a minimum expenditure of money, time, or labour.

The population of the Argyllshire islands increased from 15,887 to 24,784, or 56·00 per cent. between 1755 and 1791-98. In Skye the population increased from 11,252 to 14,470, or 28·59 per cent. In Shetland from 15,210 to 20,186 or 32·71 per cent.; and so along the west coast the increase is marked—at Applecross, for instance from 835 to 1,734, or 107·66 per cent.; at Lochbroom 2,211 to 3,500, or 58·29 per cent.[44]

It was on a population thus increased and weakened that a twofold tribulation fell. The demand for kelp ceased:[45] and for the small farms and crofts the large sheep farms were substituted, while the inhabitants as at Assynt and Tongue migrated to the coast or were there settled. What forces were coping with the difficulties, an extract from the evidence of Mr. J. Paterson, the factor of the Duke of Hamilton in Arran, will show. It indicates also how cottars and paupers lived not uncomfortably under conditions which people accustomed to a different measure of the comforts of life would find unbearable.[46] The evidence also illustrates the state of society, and throws a less gloomy light on it than does the evidence quoted in regard to Tongue. The parish described is Kilbride. After referring to the measures taken by the Duke of Hamilton to unite farms, which had been very beneficial to the tenants, the witness says: "At this time" (about 1818) "three farms called the Sannoxes, lying to the north of "Brodick, containing, with hills, 10,000 acres, were reserved as an "experiment under the old system of management. The families "upon them got worse yearly in their circumstances by the sub-"division of their possessions to give bits of ground to their sons "and daughters when they married; and they had come into such "a state in 1821, that if the system had been allowed to go on

[44] See Tables of Population, "Sinclair," vol. xx, p. 587.

[45] "Pauperism has been increased and the circumstances of the working classes "greatly deteriorated by the failure of the kelp manufacture. While that manu-"facture was carried on, the people earned good wages. Now, with the exception "of the young men, who employ themselves in the Caithness herring fishing, they "can get nothing to do."—Rev. James Russell, Gairloch, 1843, "Poor Law "Inquiry," II, 431.

Two other causes of distress may be mentioned: the fall in the price of Highland cattle at the close of the war, and the failure of the herring fishery. See a paper in the "Quarterly Journal of Agriculture" (September, 1838), "On the "Causes of the Destitution of Food in the Highlands and Islands of Scotland in the Years 1836 and 1837." By Rev. Alexander Macgregor, of Kilmuir, Skye.

[46] "Poor Law Inquiry (Scotland)," Appendix, part 2, p. 89. June, 1843.

"longer, their means would soon have been exhausted. At this "time the Government gave 100 acres of ground in Canada to each "family going out there, and twenty families went from these "three farms—half the expense of their passage and expenses out "having been paid by the Duke of Hamilton. The witness "receives accounts of them frequently, and they are all doing "well. One of the persons who then went out became a justice "of the peace, a captain of the militia, and a member of the pro-"vincial legislature. Another is a lieutenant of militia; and the "Arran people were in garrison during the last rebellion, and they "are generally now possessed of considerable property. Many of "them have acquired considerable tracts of land." The witness then refers to the cottars who in Arran had small gardens, potato grounds, &c., worked for the farmers, and joined in the herring fishery and went to the mainland for harvesting. "They generally "gain a sufficient livelihood according to their ideas of comfort. "They live upon potatoes, milk and butter, fish, and perhaps a "sheep or two is killed in the end of the season for winter, and "a little oatmeal. He has seldom found able bodied men out of "employment."

"He knows the situation of the poor upon the roll of the parish "of Kilbride. The paupers are not in so comfortable a situation "as the cottars, but they all have as many potatoes as they can "use, but no milk like the cottars. They cannot get that without "buying it or receiving it from their neighbours. These who can "go about, gather or cut seaware, and employ it, with the ashes of "their winter fires, to manure the land which they get from the "neighbouring tenants to raise potatoes from. The tenants had "the seaware, and their friends help them to plant potatoes upon "the ground, which has been either ploughed by the tenant, or is "made into hazy beds by themselves. A hazy bed upon which "potatoes are planted, by laying them upon the manure on the "surface of the ground, and then covering them by soil thrown "from a trench upon each side of the bed. Where they are bed-"ridden, their friends plant the potatoes for them. According to "their own ideas, he thinks their situation generally comfortable. "He has often been astonished at the little upon which they live, "but has often been astonished at their happiness and content-"ment. Most of the paupers on the roll are capable of doing some "work. It must not be supposed that they live entirely on "potatoes. They spin, work stockings, assist the tenants in "harvest time, such as gathering stones, weeds, &c. From their "gains made in this way, they provide themselves with milk, tea "and sugar, tobacco, and other little comforts. The paupers "generally have a quart of milk a day, but sometimes they are not

" able to buy it. The Duke of Hamilton assists some of the more " needy cases upon the poors' roll, and he also gives small " pensions, when he thinks it necessary, to persons not upon the " poors' roll, whom the Duke thinks would not be sufficiently " supplied by the kirk session from want of funds."

Statistics of Pauperism in the County Districts and in the Highlands.

With this preface we may turn to the statistics of pauperism for the counties. In Table B we deal with the enrolled poor of the 613 parishes, arranged in counties and in four districts or groups of counties, Northern Highland, Southern Highland, South Western, and South Eastern. These are divisions for some time adopted by the Board of Supervision for purposes of inspection.

SCOTLAND: 613 *Parishes. Enrolled Paupers to Population.* 1792-98, 1835-37, 1842.

Districts.	Ratio of Enrolled Poor per 1,000 of the Population.		
	1791-98.	1835-37.	1842.*
Northern Highland	30·33	32·95	30 67
Southern ,,	12·36	26·64	23·81
South Western	17·55	22·05	22·37
,, Eastern	18·20	28·86	22·03
All Scotland	18·16	26·50	23·74

* See Table B.

The Northern Highland district has the highest enrolled pauperism, though lower than that of England above quoted. Of the several counties in the district the following show a relatively high pauperism:[47]—

Counties.	1792-98.	1835-37.	1842.
Sutherland	29·00	41·26	48·13
Ross and Cromarty	38·73	40·29	37·65
Inverness	33·86	35·47	25·81
Nairn	45·49	39·79	18·82
Elgin	32·66	41·81	39·24

These figures show the high water mark of pauperism amongst the enrolled poor before the new poor law.

If we include the occasional poor, the figures for the four districts stand thus for 1835-37 and 1842:—

[47] See Table B

SCOTLAND: 857 *Parishes. Enrolled and Occasional Paupers to Population.* 1835-37 *and* 1842.*

District.	Ratio of Enrolled and Occasional Poor per 1,000 of the Population.	
	1835-37.	1842.
Northern Highland	37·32	34·07
Southern ,,	34·92	32·73
South Western	33·80	29·99
,, Eastern	35·88	33·25

* See Table C.

Here again the Northern Highland district has the highest pauperism, but by 1842 even there there is a marked improvement.

If next we take the five counties before selected, we have in regard to the enrolled and occasional poor the following figures :[48]—

Counties.	1835-37.	1842.
Sutherland	49·07	47·91
Ross and Cromarty	42·29	39·52
Inverness	33·70	28·04
Nairn	43·12	31·56
Elgin	47·72	45·36

Here again the improvement is marked. In Sutherland the population had increased between 1755 and 1792-98 from, 20,774 to 22,961, and in 1831 to 25,518, or 11·13 per cent. After 1831 it began to decrease. Between 1755 and 1792 there was in Elgin a considerable decrease, and at Nairn only a very small increase, suggesting that the population was being drawn elsewhere, to the Midland districts presumably; while there was, it would seem, no pressure from the Highland counties. In and after 1811 there was a marked increase in the population. In Elgin there were many openings for employment connected with the timber trade, quarries, the river and sea fisheries, and the improvement of the land. The town of Elgin was moreover very attractive owing to its numerous charities. In 1841 it was a town of 6,083 inhabitants, and had only 360 paupers on the roll; but there were winter soup kitchens and special collections, systematic begging throughout the town on Sundays, and endowed and other charities that affected the whole country side.[49] Possibly the high pauperism of the county of Elgin may have been due in part to these influ-

[48] See Table C.

[49] "Poor Law Inquiry (Scotland)," part 2, p. 511, &c.

ences, and to its close proximity to those highland counties which the stress of events was inducing the people to leave.

Yet if we take this district and these counties as a whole, the returns of pauperism were very low; and, though it be admitted that the life of the poor was hard, and that begging was resorted to by them, yet they indicate an extraordinary independence under economic difficulties. It may be said, of course, that returns of pauperism no longer serve as a register of the condition of the people when want becomes general and presses down to starvation point. This may be true; but if more systematic poor relief had been introduced, would the returns have been a truer index of destitution, and would the people have been freed from their difficulties more quickly? The almost nervous apprehension that some of the witnesses show as to the evils that might arise if there were assessments, seems due to a feeling that they could only aggravate existing evils by hampering the natural movement of the people and demoralising them. And that these apprehensions were well founded, the statistics of poor relief after 1845 show.

The question, however, may be considered in relation also to particular highland parishes, where the difficulties of the position are, as it were, focussed; and this I propose to do later on, in dealing with the transition from the old to the new system of relief.

The Border and Midland Counties.

In 1835-37 (Table B) the pauperism of the South-Eastern, approximated to that of the Northern Highland, district. In the former was the largest number of assessed parishes. In the Northern Highland district there were none. The districts were indeed at different stages of development; and hardly admit of useful comparison, if the comparison be limited to this one point—assessment. Still the Committee of the General Assembly (1839), who reported on the returns of 1834-36, depreciated the administration of relief in assessed, by contrasting it with that in unassessed, parishes, in the following table :—[50]

Parishes.	Population.	Number of Poor.	Expense of Maintenance.
			£
643 parishes not assessed ...	1,178,280	40,073	48,769
236 ,, assessed	1,137,646	39,356	91,726

The Highland parishes are on one side the make-weight in this contrast. On the other side among the assessed parishes is every

[50] "Report," p. 19, published 1839.

parish in Scotland with a population above 7,000 except six,[51] which had a population of 57,404. These assessed town parishes make up a population of 666,966, or 58·62 per cent. of the 1,137,646 above. The conclusion seems inevitable that, so far as this table goes, the question of assessment or non-assessment turned on differences in the administration of relief in large towns and in small towns and country parishes.

But this is not all. The number of poor even on the terms of the table are practically equal in the assessed and unassessed parishes. It is in the expenditure on maintenance that the difference lies. The expenditure of the 236 assessed parishes is nearly double that of the 643 that are unassessed. The argument that this difference suggests was taken in two ways. To the reformers of the poor law in Scotland it betokened the inadequacy of relief in the unassessed parishes. To their opponents it signified the measure of self-reliance and mutual help that was left to the people in these parishes as against their neighbours. Unfortunately, as it seems, for neither purpose was the inference valid. It depended on a comparison of like with unlike—of large town parishes with small town and rural parishes; and it was thus really uninstructive.

Nevertheless in Merse and Teviotdale, where every parish was assessed, the average rate of maintenance for each pauper was higher in parishes of similar population than in the southern and midland synods. Thus:—[52]

Enrolled Poor.

Population.	Southern and Midland Synods.			Synod of Merse and Teviotdale.	
	Parishes not Assessed.	Parishes Assessed.	Average Rate of Maintenance for each Pauper.	Parishes Assessed.	Average Rate of Maintenance for each Pauper.
			£ s. d.		£ s. d.
Not above 500...	46	6	3 6 3	16	4 1 3
500 to 1,000....	117	31	2 16 11	21	3 16 2
1,000 „ 2,000....	191	49	1 15 10	18	3 17 3
2,000 „ 5,000...	111	44	1 18 8	8	4 2 1
5,000 „ 10,000....	23	21	2 2 11	1	5 6 9

It will be noted that in the midland and southern synods of the parishes over 5,000, all but two are assessed, and the average rate is nevertheless low, while in Merse there was only one town over 5,000—Jedburgh.

[51] Stirling, Forfar, St. Vigeans, Dunfermline, Killarrow, and Old Monkland.
[52] "Report of Committee of Assembly, 1839," p. 137.

The occasional relief was trifling in the extreme in both the above districts, 2*d.*, 3*d.*, and 4*d.* a case.

The Table C suggests that in the Merse there was also more persistent pauperism than elsewhere; and this might have been anticipated if there were assessment, certainly at least until by better administration the effect of the assessment had been mitigated. It was so in Scotland generally after 1845.

The figures for Berwick, Roxburgh, and Selkirk, the counties in the Synod of Merse and Teviotdale, are as follows:—

Enrolled and Occasional Poor per 1,000 *of Population.*

Counties.	1835-47.	1842.
Berwick	46·29	41·13
Roxburgh	52·93	38·47
Selkirk	29·71	28·64
South-eastern district	35·88	33·25
Dumfries	42·13	65·14

Selkirk, it will be noted, though assessed, is little pauperised. The pauperism of Dumfries is high, and the county has therefore been quoted in the table. The excess is due to the town of Dumfries, which was assessed, and where the pauperism, 9 per cent., accounts for a third of the pauperism of the country. In this instance again the issue lies rather between the conditions of town and country than between assessment and non assessment.

Poor Relief in the Cities.

Edinburgh and Glasgow may best serve to illustrate the development of poor relief in the cities. The older administration contained almost all the elements of the newer, indeed, of the most recent methods.

Edinburgh.

Edinburgh is an aggregation of parishes consisting of the city parish, Canongate, and St. Cuthbert's or West Kirk. Before 1782 each of these parishes had its poorhouse—very "frugally managed," since each person cost little more than 2*d.* a day.[53] In West Kirk, "since the erection of their poorhouse," a tax had been found necessary of 4*d.* to 6*d.* in the £ on the annual rental. In the city the charity work or poorhouse cost 4,000*l.* a year, and provided for 900 poor. The citizens of Edinburgh were willing to pay this voluntarily; but would not do so as a tax, which, on the

[53] Inquiries concerning the Poor Law. John M'Farlan, D.D., one of the Ministers of Canongate, Edinburgh, 1782.

net rent of the city, would be "nearly double to any that they at "present pay." "The middle rank of people, who regularly attend "divine service, commonly give a collection of sixpence or a "shilling every Sunday, at the church door, or, on extraordinary "occasions, a crown or half a guinea, which amounts to from "about 1*l.* 10*s.* to 3*l.* a year." Nevertheless, the expense of the poor has, for a number of years past, exceeded its stated revenues; and, "as the inhabitants opposed a poor tax, the managers were "often reduced to the greatest difficulties in obtaining supplies." To reduce the expense of the poorhouse, the boarding out of children was adopted with success. The workhouses were considered of doubtful benefit. They were thought to be expensive; and "there is reason to believe that the number of beggars, and "of poor unprovided for, is, at this day (1782) as great in Edinburgh "and in the suburbs as before there was a stone of a poorhouse "laid!" Probably the "house" was not used as a test, as it had been already used with success in England, though the poorhouse system seems to have been generally accepted in the larger towns throughout the country. Thus, for instance, in 1646 the ministers and elders in the Canongate formed a committee for providing a house "for receiving and entertaining the whole ordinary poor of "the city; and that none be suffered to go abroad and be seen "begging, but that all that be in any ways able be set to work;" and Principal Lee[54] says that in the records of various sessions he has found notices of public buildings in which the poor were maintained. At Aberdeen, indeed, they had used the house as a test. "The multitude of sorners and beggars" became "an intolerable "grievance." Accordingly, in 1739 the house was erected, and "for several years the town was freed from vagabonds." This practice was subsequently "found inconvenient." The indigent received allowances instead of being lodged in the house, and the applicants again increased.[55]

Of the West Kirk I have no statistical information till 1832. That parish, as we have seen, resorted early to an assessment. Between 1755 and 1791 its population had increased from 12,168 to 32,947, 170·76 per cent.,[56] while the population of the city had been stationary. This alone would account for the assessment. In 1832 the heritors, 4,000 in number, took over the management of the poor, in the hope of reducing the cost of the administration. They divided the parish into six divisions of 12,000, and each of these divisions into 10 districts. Out of their number they chose 120 managers—to co-operate with the elders—two persons,

[54] "Poor Law Inquiry (Scotland)," Appendix, part 3, p. 850.
[55] "Annals of Aberdeen." By Dr. Kennedy, 1818, p. 157.
[56] See "Statistical Account," VI, p. 561.

managers or a manager, and an elder, resident in the division or district, to receive applications, make inquiries, &c.; these formed the district committee, and with them were associated the ministers of the churches and chapels. There was a poors' roll for each division, which was periodically reported to the master of the charity workhouse, who acted as paymaster for all out-pensions. The managers, ministers, and elders formed the general board of managers for the parish. There was an out-pension committee, and they required of each pauper a careful and detailed statement "with *an offer to go into the workhouse*,[57] if no out-pension could be "allowed." The result was, out of 1,459 cases, 290 were refused; in 140 the paupers were admitted to the workhouse, and 1,029 received out-pensions or temporary relief. On this head large savings were made.[58] We come across the system again in 1842; it is then on the wane. The rule was that the managers should visit the pensioners, but latterly the clerk had done so. "Men of "business cannot devote time to this."[59] Delays occurred, and the managers seemed tired of the irksome duty of running about inquiring after poor cases: a paid inspector was wanted.[60]

In 1782 Dr. M'Farlan said paid inspectors were wanted in cities to deal with vagrants and to inquire into the characters and circumstances of those in the lower classes of life who are likely to become a burden on the public.[61] This plan was now in force in St. Cuthbert's, and there was a tendency to employ paid officers elsewhere. Thus at Paisley, where in 1785 a committee of overseers had been appointed, each of whom had charge of a district,[62] in 1809 a "steady and active person" was appointed as clerk, to keep the books and pay the weekly poor. Similarly at Glasgow a paid inspector was appointed to the town hospital, and in 1842, when paid inspectors were employed in connection with the exceptional distress fund of that year, it was said to have been infinitely better managed in consequence than the similar fund of 1837.[63] Thus the clerk and the paid inspector were coming into being. This was one sign of change.

In the Canongate Dr. Chalmers's scheme had been tried from 1821 to 1823, and then given up, apparently in consequence of misunderstanding between the managers of the charity workhouse and the kirk session, and partly because they could not get on

[57] The *italics* are in the original.

[58] See resolution of the kirk session and minister of the parish of St. Cuthbert, 1833, and Report of the Out-pension Committee, 1834.

[59] Mr. William Gray, house governor of the local kirk charity workhouse, "Poor Law Inquiry (Scotland)," p. 595, &c.

[60] Mr. John Gray, a manager of the West Kirk workhouse. *Q.* 880.

[61] P. 330. [62] "Burns," p. 366.

[63] C. R. Baird, "Poor Law Inquiry (Scotland)." *Q.* 7006.

without an assessment, as the collections were so small. Possibly as a result of these more methodic arrangements, in 1834-36, and in 1842, the returns of St. Cuthbert's and the Canongate—a very poor parish indeed, were much better than those of the city. The paupers in the Canongate were 35 and 36 per thousand and those in St. Cuthbert's 17 and 23; while in the city in 1835-37 they were 62 per thousand.

Glasgow.

Glasgow too is a group of parishes—the town, the Barony parish, and Govan combination, which includes Gorbals. In Glasgow proper, in 1816 there were seven churches, each with its kirk session. It was on a new church and parish, St. John's, being opened, that Chalmers introduced his scheme in 1819.

A poorhouse had been built in 1733, chiefly for the aged and infirm and orphans. The poor were divided into two classes, the sessions poor and the hospital poor. The former were maintained by the session; the latter were supported by an assessment as early as the year 1735.[64] This assessment was made on every person whose property or business was supposed to be worth 300*l.* —noteworthy as an assessment that threw the burthen of maintaining the poor on the wealthier classes, and as at St. Cuthbert's and elsewhere, rising out of the expenditure incurred in connection with a poorhouse. It was changed to an assessment on rentals about 1840.[65]

The general system remained in vogue till 1845. It is thus described a year or two earlier:—

"First of all, the paupers are generally taken charge of by the "kirk sessions. The first application is made to the elder. He "recommends the pauper to the hospital for inspection in the first "instance. The inspector visits the pauper and reports to the "kirk session regarding the circumstances of the applicant, and "the kirk session acts accordingly. If the party is taken on the "roll, a certain allowance is fixed (the kirk session, from 2*s.* 6*d.* a "month to 5*s.* or 6*s.*), as the case may be. If 2*s.* 6*d.* is not enough, "the allowance is raised till it reaches to 6*s.*, and if more is "required it is referred to the hospital." The hospital committee both made additional allowances and maintained the poor in the hospital. There were thus, as in 1843, two classes, the kirk sessional poor and the hospital poor.

The hospital poor increased steadily after 1792; they numbered 671 in that year, 1,049 in 1800, and 2,017 in 1813. In the year

[64] *Cf.* "M'Farlan," p. 410, and Report of 1839; also "Annals of Glasgow," by James Cleland, 1816, who gives the year of the assessment as 1733.

[65] *Cf.* "Poor Law Inquiry (Scotland)." Dunlop. *Q.* 5338.

1843 they numbered 2,204, including 282 on the meal roll, and 275, the weekly average of temporary cases. These temporary cases mounted to 1,100 and 1,300 in the winter months.[66] Those in the house numbered 375.

The problem was thus, as a mere matter of numbers, becoming, as in Edinburgh, more and more pressing; and in years of exceptional distress large numbers were relieved by food and employment—in 1837, 2,884; in 1843, if their dependents be included, 4,179.

Besides the kirk sessions there were the voluntary charities, the general hospitals or infirmaries, that, as in English towns, sprang up early in the eighteenth century, and then towards the end of the last and the beginning of this century, the dispensaries and the relief societies. Of these there were many at Glasgow. There was also a house of refuge for boys, supported in part by the rates. Indeed, in 1816 it was calculated that the total charities of Glasgow amounted to 32,942*l.* a year,[67] or, adding 2,000*l.*, the expenditure of Nonconformist societies and congregations, 1,750*l.* from benefit societies, and 67,667*l.* from voluntary givers, in all 104,360.[68] Of these charities however a large amount consisted of the income of institutions the benefits of which were confined to burgesses or to their widows and children, for Glasgow was then an "unreformed corporation," and, as in other cities, the inhabitants were divided into burgesses, members of the merchant or trade houses, with their own privileges and charities, and the outer world of unqualified residents. A brisk growing commercial city, faring well or suffering ill by turns according to the stress of war or trade, it attracted an Irish and Highland population, bred on the country side and ill equipped for town life. In the attempt to acclimatise themselves to urban conditions, it was not wonderful that many fell away, tempted to vice, made reckless by the receipt of high and variable wages, and irked by the exacting requirements of regular labour; and the state of the town, as of parts of Edinburgh, would seem to have been most pitiable. "In the very centre of the city was an accumulated mass "of squalid wretchedness, which was probably unequalled in any "other town in the British dominions. . . . These places (the

[66] "Poor Law Inquiry (Scotland)." Peter Hill, governor of town's hospital. *Q.* 5260, &c.

[67] The dates show the progress of the movement: the Female Society, 1779; the Glasgow Dispensary, 1801; Sick and Destitute Strangers' Friendly Society, 1803; Lock Hospital, 1805; the Benevolent Society, 1808; the Ruth Society, 1809; the Aged Women's Society, 1811; the Old Men's Friend Society, 1814; the Benevolent Society for Clothing the Poor, 1812; the Charity Sewing School, 1812.

[68] "Cleland," p. 270, 1816.

"Vennels and other quarters) are filled by a population of many "thousands of miserable creatures. The houses in which they "live are altogether unfit for human beings, and every apartment "is filled with a promiscuous crowd of men, women, and children "in a state of filth and misery"[69] . . . and so on. A network of closes such as are here described, the Glasgow Corporation has in the last twenty-eight years cleared away. Formerly their existence was a manifest and irrepressible argument for sanitary reform; but they served another purpose also; they were used as an argument for the reform of poor relief.

Two other evils also were operating. The old educational system was proving insufficient for the growing needs of the people; and education was neglected, as child labour was in demand at the factories. One chief element that had tended to the social stability of Scotland was thus being weakened, and its future pauperism was thus being created. This was in part to show itself in the high pauperism of twenty and thirty years later.

The Irish Invasion.

One of the chief causes of difficulty in poor administration was the in-rush of the Irish. The extent of it is perhaps hardly realised. The feeling that it created was not unlike that expressed sometimes in the United States in regard to immigrants there, though for the increasing manufactories both Irish and Highland hands were wanted.

In the worst parts of Glasgow, "in the backhouses of the "Saltmarket," three-fourths were Irish, and in some closes more than three-fourths.[70] They gained settlement in Glasgow after a three years' stay. Irish landlords, it was said, gave them false certificates, saying that they had been in Glasgow some years, when they had been there but three months.[71] Of 514 beggars apprehended in February and March, 143 were Irish, 10 English, and 356 Scotch. The Irish were taken by the steamboats at half-price. "When they had been given their passes to return to Ireland, "they would sell their passage lines. They frequently came back. "I have passed some seven or eight times," the superintendent of the vagrant poor says. Of the 164 boys at the House of Refuge at Glasgow, the fathers of forty-seven, 28·65 per cent., and the mothers of thirty-seven, 22·56 per cent., were Irish.[72] Of 2,884

[69] "Poor Law Inquiry (Scotland)." Captain Miller, Superintendent of Police for Glasgow. *Q.* 5672.

[70] "Poor Law Inquiry." Mr. George Heggie, cabinet maker. *Q.* 6431.

[71] "Poor Law Inquiry." Robert Ross, Superintendent of the Vagrant Poor. *Q.* 6596.

[72] "Poor Law Inquiry." Mr. John Leadbetter. *Q.* 7157.

persons relieved during the exceptional distress of 1837, 1,103 were Irish (38·24 per cent.), and of 1,043 men relieved in the distress of 1843, 403 were Irish (38·63 per cent.). At the Edinburgh Charity Workhouse, of 150 in receipt of temporary aid, 38 were natives of Ireland (25·33 per cent.); of 1,157 out-pensioners there were 83 Irish (7·34 per cent.). So in other towns, Paisley, Greenock, Dundee, and elsewhere, then and later the migration continued. In 1868 the numbers who applied for relief in Renfrewshire were 17,374; of these 5,296 were Irish (30·48 per cent.);[73] in 1863 they numbered 4,325. In the year ending 18th May, 1871, persons born in Ireland and their dependents made up about 14·58 per cent. of the pauperism of the whole country. In Lanarkshire they were 22·11, in Dumbartonshire 24·25, in Edinburghshire 16·76 of the total paupers. The large and sudden increase of the population of the cities would in itself have put a strain on any system of poor relief; but in the towns, as these figures show, a great number of the paupers were aliens, unused to the country, connected with no kirk, bred to different habits of life, and as migrants parted from those relations and friends on whose assistance, in the Scotch system of poor relief, reliance was placed for the provision of a large part of the means of supplementing the relief provided by the session.

The pauperism of the twenty-four large towns of Scotland, *i.e.*, civil parishes or urban groupings of civil parishes, that in 1891 had populations of over 20,000 from 1792-98 to 1891, has been set out in a special table not here printed. Edinburgh, South Leith, Dundee and Greenock have an exceptionally high pauperism. At Glasgow however the pauperism is low, whatever be the cause, the influence of Chalmers, or the number of voluntary charities, or what. In Table E is stated the pauperism of the nine large towns, those with populations of more than 30,000.

The Alternative.

In the reform of the administration of poor relief there were two policies. One was suggested by Dr. Chalmers. One was proposed by the Commission of 1843-44. Chalmers had the precedence. He began his experiment at St. John's, Glasgow in 1819. In 1824 he published his paper on the Parliamentary means for the abolition of pauperism in England. Later a Bill, drafted mainly on lines suggested by his experience, was brought into the House of Commons. Its object was to promote the

[73] "Select Committee on Poor Law (Scotland), 1869." Mr. B. Watson. *Q.* 5816. How persistent this Irish pauperism has been may be judged from the returns quoted in regard to old age pauperism in the foot note on p. 329.

reversion of parishes in Scotland to a system of non-assessed relief. It was thrown out, partly, as Chalmers thought, because it had not been made permissive. Before 1846 therefore Chalmers had, as it were, played his trump card, and lost.

The policy of the Commission of 1843-44 was submitted to the country ten years after the reform of the English poor law. Only a few years earlier, when Chalmers first paid attention to the question, the English poor law had been disparaged as an unexampled failure—the very antithesis of the Scotch system, which afforded no relief to the able bodied, and which had kept the country free from pauperism when the larger part of England was suffering intensely from it. Now opinion had veered round. The English administration was spoken of with respect and even admiration. The so-called workhouse test received scant approval, but the comparative largeness of the allowances of out-door relief was commended; and probably too, on the part of English legislators and administrators there was something of missionary pride in trying to introduce into Scotland and Ireland some of the characteristic features of the recently adopted poor law of England.

Dr. Chalmers's Proposals.

Dr. Chalmers's scheme of poor relief was not novel. It was really only the old Scotch method applied with better organisation and more thoroughness, and purged of assessment. The parochial system was territorial. He would multiply the parishes, and thus divide the towns into areas of a manageable size. He would not adopt the plan that for some time had been in force, of dividing the old civil parishes into parishes *quoad sacra*, by which the administration of relief remained vested in the older and now too large area, while the churches in the smaller area were discharged of their natural responsibilities. He would make each parish a unit of administration. Disregard of this principle had led to an overweighted central administration, to insufficient supervision, perfunctory work, and to an exaggerated conception of the amount of distress and the difficulties of the problem. In the larger towns, as in Glasgow, there was a duplicate administration, that of the town hospital and that of the kirk sessions. He would confine the work of the kirk sessions to the administration of charitable out-door relief, receiving neither subsidy nor supplementary help from the town hospital. The public authority, such as the town hospital, should deal with institutional relief, as, for instance, medical relief, the care of lunatics, of imbeciles, and generally of the afflicted classes. There was little or no temptation to the poor to become invalids, and

none to become afflicted. Municipal institutional relief in regard to this class could do but little harm, and might be maintained by assessment. The converse was true of out-door relief, and accordingly it should not be provided by assessment. To administer this relief he would have deacons resident in the district, holding office like the elders under the church. These men he carefully instructed in their duties. To each a district was assigned, and he proved that if good principles of administration were adopted, the tax upon the time of the deacon would not be greater than he could reasonably afford. Inquiry of course he insisted on, but he laid most stress on two principles. The first was, that it was good that the poor should help the poor, and that upon this help reliance should chiefly be placed. The sum at the disposal of a public charity or even a rate-supported institution, he argued, was comparatively small—small, that is, in proportion to the possible wants of the poor. Gifts from these external sources tended to mislead the poor by a false arithmetic. Even a single gift coming from without, from what in their minds seemed a large treasure when contrasted with their own individual needs, set them wrong in their count of possibilities. The one gift stood for an indefinite series of possible gifts. The result was to distract them from personal endeavour just at their weakest moments, and to lead them to expect assistance, with disastrous consequences, when in fact it was not, and could not be, forthcoming. The right policy was to stimulate and guide the charity of the poor. The resources of neighbourly charity were much larger than the philanthropist realised, and, husbanded and applied with better knowledge than the philanthropist could attain, they supplied a larger measure of assistance, and at the same time proved more beneficial than his gifts or the gifts of a society or of a public administration. That a poor person should contribute, for instance, to a bible society, helped to give him a status—a position above dependence, which he would be very unwilling to lose.

The other principle was put by him thus: "There is a con-
" nection between a high state of character and a high state of
" economic comfort; but an important mistake is often made in the
" order of causation. It is often conceived that comfort is the cause,
" and character is the effect. Now I hold that character is the cause,
" and that comfort is the effect."[74] Guided by this conviction, Dr. Chalmers thought that to open the channel of relief, or to augment greatly the amount of relief distributed, was to strive to produce a comfort that was not earned by character, and could only injure character directly or indirectly. The result, indeed,

[74] Select Committee on State of the Poor in Ireland." *Q.* 3550.

would, *mutatis mutandis*, be similar to that produced in the Western Islands by the kelp trade, artificially introduced by the imposition of duties on those articles from which soda could have been extracted more advantageously. In these circumstances character could not but suffer, for the incitements to its development were diminished.

This theory of charity Dr. Chalmers worked out in practice, and put to the test of experiment; and it may be said that he proved its correctness. He obtained for his parish the privilege of independence. It was poor, and contained a population of about 10,000, and subsequently 8,000. Yet it was assessed to the poor rate, though it paid the expenses of the maintenance of the poor of the parish who were in the town hospital at the time of the new arrangement, and though it did not use the hospital for its own cases. It supported too all the other poor who were already on the session's roll when the new plan came into operation. This it did with part of the Sunday morning collection. New claimants it assisted solely from the proceeds of an evening collection, that amounted to about 80*l.* a year. The sessional poor on the roll, the poor that the parish had inherited, were reduced in three years and a half from 117 to 57, and in that time only 20 new cases were added to the list; and in 1832, in spite of the fact that a fifth of the then population of 11,746 was Irish, there were only 72 (or six per thousand) sessional poor. Chalmers left Glasgow in 1823, but the system worked satisfactorily for sixteen years, till 1837.[75] When it was given up there were only 80 paupers. In 1844, seven years later the then incumbent said there were 123.[76]

The Decline of the Old Scotch System.

The Scotch system of relief which Dr. Chalmers would have remodelled had however become so much weakened, that even a man of his immense energy and influence could not reinvigorate it, and when the "disruption" took place, which led to the formation of the Free Church in 1843, the task was plainly impossible.

The statistics and statements that I have submitted indicate the weakness. In the towns the difficulty of coping with destitution without an assessment had been felt very early. Towards the end of the last century the increase of the poor was noticed, and its prevention discussed. At each step the organisation was elaborated, and with the growth of the towns paid assistance was resorted to. In the country the land was being rapidly improved, and in this process farms were enlarged and the farming population reduced; and as a consequence villages grew into small towns,

[75] See "Tracts on Pauperism," and other works.

[76] "Poor Law Inquiry (Scotland)." Rev. Dr. Brown. *Q.* 6417.

and the larger towns became more populous. In both these and in many of the smaller towns the manufactures attracted the migrants; and there was simultaneously an immigration from Ireland that seriously added to the demand for public relief. These migrants had no relations at hand to join in helping them. The public claim for relief, mere relief, assumed a new prominence. Many felt, as Sir John M'Niell put it in 1869, that the struggle not to sink into pauperism must decline in a country where the relations of society were so complicated, where the occupations were so various, where every arrangement was a matter of bargain and contract.[77] The years of scarcity had added to the number of assessed towns, and the feeling that the incomers were strangers, without any claim on the charities of the town, gave point to the argument that an assessment was a juster method of supply than voluntary contribution. The position of the Established Church and of the elders was weakened. Both had lost much of the respect formerly paid to them. The elders formed a court of morals and manners, and much of their influence as administrators of relief depended on their ecclesiastical status. But the world had become disinclined to accept the rulings of such a court. In 1793 it is noted that "attendance at church was greatly "neglected, and particularly by men," as compared with thirty years before. "Sunday was by many made a day of relaxation,"[78] and, in cases in which there would have formerly been fines and reprobation, "church censure" was now disused. The world had grown indifferent, more showy, perhaps, and more lighthearted and reckless; the rhymes about "Daddy Auld" and the rest were but an incident in the general protest against church domination, and also, perhaps it must be said, against cant; and in the towns the elders did not, it would seem, fulfil their duties as administrators of relief as once they did. "This useful body of men,"[79] wrote one of Sir John Sinclair's correspondents in 1791, "appear "to be on the decline, as to number, at least in the west of "Scotland. Few people choose to accept an office, which not "only has not the smallest emolument annexed to it, but, as far "as connected with the management of the poor, is a thankless

[77] "Select Committee Inquiry," 1896. *Q.* 1377.

[78] "William Creech," vol. vi, p. 603. Statistical account, 1813. "In 1763 "there was no such profession known as a perfumer [in Edinburgh]: barbers and "wig makers were numerous, and were in the order of decent burgesses. Hair-"dressers were few, and hardly permitted to dress hair on Sundays, and many of "them voluntarily declined it.

"In 1783, perfumers kept splendid shops in every principal street . . . Hair-"dressers were more than tripled in number, and their busiest day was Sunday."

[79] "Poor Law Inquiry (Scotland)." *Cf.* Wright, 3066, &c.; Allan, 4232; Alison, 1623; Macaulay, 2906, &c.; and "Burns," pp. 1 and 276.

"and troublesome business." Dissent too had broken the strength of the church. In the Barony parish of Glasgow, out of 18,451 persons 6,082 were dissenters. In the Highland and the country districts, as we have seen, dissent was also rife. This seriously limited the collections, but still more did it check the enlistment of energetic recruits for associated action in the administration of relief. The nonconformist churches, it was said, looked after their own poor. The very phrase betokened their inability to participate in the old national system of relief. Many people felt that it would be "better if the administration were handed over "to a neutral board. That it was much better to keep religion "disconnected with civil matters altogether."[80] The numerous miscellaneous voluntary charities that had sprung up further dissipated the forces available for a common administration. But apart from these changes, Parliament, it may be said, first hampered and then frustrated the free development of the Established Church, and it was on that freedom that its vitality as an administrator of relief depended. The right of the Church to appoint its own ministers was the chief question in dispute, and the chief cause of the secessions. Till Erskine was deposed in 1740, there had hardly been an assessment in Scotland. One crop of them resulted from this secession. After 1752, when the Relief schism took place, there was another crop. This schism affected 100,000 persons out of the comparatively small population of Scotland. After 1843, when the House of Commons finally declined to redress Church grievances, the disruption took place, and the Free Church movement was organised, in which Chalmers took the leading part; and then assessments soon became the rule instead of the exception. Secession indeed was but another word for assessment. In 1874 the Patronage Act was repealed—but in the one hundred and fourteen years that preceded the repeal Parliament had not only clipped the democratic energy of the church, but had done much to deprive it of its ability and enthusiasm. Chalmers's scheme of charity was only possible in a democratic church. Parliament in deadening the vitality of the church had at the same time destroyed the Scotch system of relief.

The New Poor Law.

The new poor law[81] created a central board of supervision, with power to obtain returns, examine witnesses, and make special inquiries, and form unions or combinations of parishes. It established elective parochial boards, required these boards to elect

[80] "Poor Law Inquiry (Scotland)." Alexander Allan. *Q.* 4232.
[81] 8 and 9 Vict., cap. 83.

chairmen, and to appoint paid inspectors,[82] and to meet and make up the "roll of the poor persons claiming and by law entitled to "relief for the parish or combination." It regulated the mode of assessment, allowing the adoption of optional methods which might be adapted to meet local preferences. It required kirk sessional clerks in assessed parishes to report annually how the church collections were used. It placed the power of removing inspectors in the hands of the board of supervision. It provided for the establishment of poorhouses "for those persons who from weak-"ness or facility of mind, or by reason of dissipated and impro-"vident habits, are unable or unfit to take charge of their own "affairs." It enabled relief raised by assessment to be applied "to the occasional, as well as the permanent, poor," but "provided "always that nothing herein contained shall be held to confer a "right to demand relief on ablebodied persons out of employ-"ment." It extended settlement from three years to five. In cases of refusal of relief, it allowed the pauper to appeal to the sheriff. In cases of alleged inadequate relief, the pauper was entitled to lodge a complaint with the board of supervision, and, if they declared that there was just cause of action, he could proceed with his suit, and might, in the meantime, have interim relief by the order of the board of supervision pending the settlement of his case.

PART II.—AFTER 1845.

Before dealing with one or two special questions, the effect of the new Act on the obligations of the family, adequacy of relief, the use of the poorhouse in Scotland, the relief of the able-bodied, and vagrancy, it is well to consider the statistical results of the change. The period from 1845 to 1891 is divided into two parts. About 1869 and 1870 pauperism rose throughout the United Kingdom. In those years there was an inquiry in regard to the Scotch poor by a Select Committee of the House of Commons. At the close of the period, in 1894, there was an inquiry by a Scotch Departmental Committee, which may for some purposes be included in our survey. Throughout the period we have the annual reports of the board of supervision, and a series of statistics.

The Statistics of the Board of Supervision.[83]

There have been variations in the returns issued by the Board that mar the series for purposes of comparison, and these varia-

[82] We should use the word clerks, and for sub-inspectors relieving officers.

[83] I have to thank Mr. A. J. Crichton, Miss Money, and Miss Bell very cordially for their help in the preparation of the tables appended to this paper.

tions have to be taken into account, if we are to avoid drawing misleading conclusions from the tables.

From 1847 to 1859 there is a year count of the number of paupers "enrolled," or "registered," and "casual," both for counties and towns. In 1860, and from that date onwards, we have a day count for 14th May in each year for the counties. This count, being a day count, and therefore most likely to be accurate, and being continuous from 1860 to 1891, has been used throughout the statistical tables appended to this paper (see Table D). After 1860 other day counts were added to the returns, *e.g.*, for 14th August, and 1st January in 1875, and in 1884 for 14th September, and 14th January. Of these no use has been made. The year counts cease in 1890.

In the case of the towns, from 1847 to 1874 there was a year count only; from 1875 to 1889 both a year and a day count, and after 1891 only a day count. In order to make the series as complete as possible, the year count has in the case of towns been used throughout till 1891. There is thus in Table E a series of yearly statistics of pauperism for 1835-37 and 1842 and then decenially from 1851 to 1881 inclusive. In that year the day count has also been used, in order that that there might be figures to compare with 1891, when the day count only was forthcoming.

In 1892 (14th May) the returns contain a column for paupers and dependents 60 years of age and upwards. In 1893 and 1894 there are instead returns of persons 65 years of age and upwards. Tables (H and I) based on these returns have been appended.

The Tables of Pauperism.

The tables of pauperism are drawn up on two methods, one which allows comparison of the past and present of a district,[84]

[84] For the purposes of these tables Scotland has been divided into four districts, adopted by the Board of Supervision for purposes of inspection and also into three divisions.

The following note as to the tables may be found of service to the reader:—

Tables A, B, and C refer to Scotland before the introduction of the new poor law. A is a table compiled in order to show clearly in regard to what parishes statistical information as to poor relief is, or is not, forthcoming in Sinclair's "Statistical Account, 1791-98." Tables B and C contain statistics of the number of paupers by counties and according to four districts of Scotland, for the years 1791-98, for the average of the years 1835-37, and for the year 1842.

Tables D, E, F (in two parts), G (in two parts), H, and I refer to Scotland after the introduction of the new poor law.

Table D contains the counts of pauperism for the years ending 14th May, 1851 and 1861, and for the days 14th May, 1871, 1881, and 1891. The figures in it are set out, like those in the tables of pauperism before the new poor law, by counties and in four districts.

Table E contains the counts of pauperism for the same years and days, but it refers to the nine large towns—town-parishes or combinations, which in 1891 had a population of above 30,000. To make this table more complete the average

county, or town (see Tables B, C, D, E, H, and I); one which allows comparison of the division[85] or county with other divisions or counties (see Tables F and G). Owing to the variations in the series of returns it was not found possible to apply this method to the towns.

A word of explanation should be given in regard to the second—the comparative method—that has been adopted.

The rate of pauperism in any given area is dependent on three or four different factors: the poverty and other economic conditions of the district, the character of the administration of relief, the character of the race inhabiting the district, and last, but not least, the age distribution of the inhabitants. If the variations of these factors, and especially of the last, be forgotten, comparisons between the crude rates of pauperism will be fallacious. In the returns of pauperism no ages are given. We cannot therefore correct the rates according to a standard population as is done in the case of the rates of mortality. I have therefore suggested for this purpose the use of the rate of pauperism itself, assuming that when it is averaged over a long period, *e.g.*, a decade, it is more dependent on age distribution and race than on any other of the factors mentioned. Thus I take—

Comparative pauperism for any district

$$= \left.\begin{array}{l}\text{ordinary one day}\\ \text{pauperism for that}\\ \text{district}\end{array}\right\} \times \frac{\text{average pauperism for whole of Scotland during preceding decade}}{\text{average pauperism for that district during the preceding decade}}:$$

or say

$$x = C \times \frac{A}{B}:$$

where, to be more specific, as in Table G (second part),

pauperism for the years 1835-57 and the pauperism for the year 1842 have been added.

Table F (parts one and two) and Table G (parts one and two) give "the "comparative pauperism," to which special reference is made in the next section of this paper.

In Table F (first part) Scotland is divided into counties and into three divisions. The average pauperism per 1,000 of the population, Col. 3, of the years 1847-51 and of the decade 1852-61 for each division and for each county is given, and the recorded pauperism for the last of each of these groups of years (Col. 4). The figures for the comparative pauperism of the division and of the county, considered as a part of the division, are also set out (Col. 5).

In Table F (second part) the same method is followed; but day counts of pauperism are forthcoming from 1862, and these accordingly have been substituted for the year counts from 1862 to 1891.

Table G (first part) and G (second part) are both comparative tables, only differing from the two parts of Table F in that the comparative pauperism is calculated for each county taken as a part of Scotland, instead of for each county taken as a part of one of the three divisions of Scotland.

Table H contains statistics of the old age pauperism of Scotland by counties for 1892-94. Table I gives similar statistics for the nine large towns.

[85] In these tables Scotland is divided into three divisions.

A = the ratio per thousand in the whole of Scotland of the mean of the paupers returned on each 14th May in a decade, to the population at the census closing the decade.

B = the ratio per thousand in a county of Scotland of the mean of the paupers, returned on each 14th May in a decade, to the population at the census closing the decade.

C = the ratio per thousand in a county of Scotland of the paupers returned on a particular day—the 14th May nearest the census—to the population at the census closing the decade.

Thus, if we take Nairn, 1862-71, Table G (second part), we have:—

$$[C]\ 43{\cdot}83 \times \frac{[A]\ 38{\cdot}64}{[B]\ 49{\cdot}21} = 34{\cdot}41, \text{ the "comparative pauperism."}$$

The conditions of age and race existing in the district are thus reduced to the standard of those in Scotland as a whole.

The weakness of the method lies in the fact that even the decadal average pauperism cannot be held to be strictly independent of the variations of economic and administrative conditions as well as age and race. But I could not see any way of obtaining a better measure of the latter factors. It is assumed consequently in the sequel that the comparative pauperism (as above defined) for any locality is a measure of the pauperism of that locality, which can be used for comparing it with any other district, in spite of differences of race and age distribution—that it is at least a better measure than the comparison of the crude pauperism of the different districts. For safety, however, or to place at the reader's disposal another measure, if he may prefer it, the ordinary rates of pauperism (see Tables D and E, and Tables F and G, second parts, Col. 4) and the mean of the ordinary rates of pauperism (per thousand of the population) for each decade (see Tables F and G, second parts, Col. 3), are also given.[86]

Statistics, 1835-37 *to* 1891.

The rate of pauperism in the country at large from 1835-37 to 1891 was as follows:—[87]

[86] Since reading the paper at the meeting of the Royal Statistical Society, I have revised this section in accordance with suggestions kindly made to me by Mr. G. Udny Yule.

[87] See Tables C and D.

Paupers per 1,000 of the Population.

	Scotland.	Northern Highland.	Southern Highland.	South-Western.	South-Eastern.
Years—					
1835–37	34·83	37·32	34·92	32·80	35·88
'42	32·07	34·07	32·73	29·99	33·25
'51	49·11	47·84	36·58	58·97	48·17
'61	45·77	43·91	41·64	49·95	44·37
May 14—					
1871	38·46	49·21	39·15	37·38	34·15
'81	27·38	40·91	25·22	27·19	23·72
'91	22·62	39·32	22·21	21·06	19·02

The advance is obvious. The difference between the pauperism of the Northern Highlands and that of Scotland as a whole is marked; and throughout the pauperism these remain comparatively high.

If we compare 14th May, 1861, with the 14th May, 1891, we find that population has increased in Scotland by 31 per cent., and pauperism diminished by 26 per cent. The general advance is great and indisputable.[88]

Taking particular counties in which the pauperism seems high, we find (see Table D):—

Pauperism per 1,000 of the Population.

	District.	Caithness.	Sutherland.	Ross and Cromarty.	Inverness.
Year—					
1851	47·84	52·38	47·93	48·97	62·05
'61	43·91	47·84	45·41	49·69	47·78
Day—					
1871	49·21	52·22	43·69	54·34	49·52
'81	40·91	45·76	42·72	49·99	40·67
'91	39·32	46·21	42·10	45·93	40·64

If, however, we take the comparative Table (G first and second parts, Col. 5), these counties stand thus:—[89]

	Scotland.	Caithness.	Sutherland.	Ross and Cromarty.	Inverness.
Year counts—					
1847–51.....	49·11	61·76	65·13	59·78	75·69
'52–61.....	45·77	50·71	42·68	43·32	41·22
Day counts—					
1862–71.....	38·46	45·90	41·20	48·00	45·60
'72–81.....	27·38	34·32	37·07	36·13	35.35
'82–91.....	22·62	33·50	31·29	31·19	32·14

[88] See Annual Reports of the Board of Supervision.

[89] Table G.

The comparative table (G) seems to show therefore that in the period 1847-51 the pauperism in these counties, when compared with that of Scotland as a whole, was larger than the local returns appeared to indicate, while in later periods it was less.

Again, we may take counties in the south of Scotland. (Table D; year, and subsequently day, count.)

	District.	Lanark.	Dumfries.	Kirkcudbright.	Wigtown.
Year—					
1851	58·97	63·22	48·20	63·26	57·50
'61	49·95	44·20	62·03	66·07	65·42
Day—					
1871	37·38	33·89	43·13	50·95	65·90
'81	27·19	26·97	28·12	30·69	38·74
'91	21·02	19·85	24·44	27·41	31·77

Beside this statement we may set a statement respecting the same counties with the ratios per thousand calculated on the comparative method. (Table G (first and second parts), Col. 5.)

	Scotland.	Lanark.	Dumfries.	Kirkcudbright.	Wigtown.
Year counts—					
1847-51.....	49·11	33·18	64·95	60·03	57·69
'52-61.....	45·77	45·82	47·10	50·76	51·45
Day counts—					
1862-71.....	38·46	40·84	38·41	37·66	36·78
'72-81.....	27·38	30·19	24·88	23·19	25·33
'82-91.....	22·62	22·48	22·50	21·51	22·08

Here a comparison of the recorded pauperism (Table D) with the comparative pauperism (Table G) appears to show that in the period 1862-71 to 1882-91, the comparative pauperism of Lanark was more, and that of the other counties less than the recorded pauperism indicated.

We may compare also the counties of Dumbarton and Selkirk. (Table D, and Table G, second part.)

	Dumbarton.		Selkirk.	
	On Ordinary Method.	On Comparative Method.	On Ordinary Method.	On Comparative Method.
1871	37·02	39·75	18·71	41·45
'81	19·56	25·33	16·79	35·42
'91	16·70	24·98	9·16	21·14

Thus, by comparison with the rest of Scotland, Dumbarton, instead of being, as might be thought from Table D, one of the least pauperised counties in Scotland, is actually (see Table G) the most pauperised except Elgin; and Selkirk, though it takes

the first place in 1891 (Table D), when judged on the comparative method (Table G) takes the fourth position.

The Transition to the New System.

When the new Act was passed, the parochial boards had to register the poor. This led to an immediate increase in the numbers. "People who managed to support themselves from other "resources, where there was what they call a common fund, thought "that they might as well obtain a portion of it; and there is no "doubt that they had a claim. But what was done by relatives "was far less; and that is an increasing evil."[90] This is the statement of Mr. W. Smythe, who was Secretary to the Commission of Inquiry and drafted their report, and who was afterwards Secretary to the Board of Supervision. The crowd of dependent people pressed where they thought relief could most easily be secured, and the smallness of the relief was no bar to their pertinacity. There was, it was noticed, a large increase in the applications from persons partially unable to work. The years immediately following 1845 were years of scarcity. The potato crop failed, and this affected the whole of Scotland, though most gravely the western coasts and the north. To the inevitable difficulties of a change of system the pressure of distress was added.

The figures show the change: thus take Caithness for instance, the pauperism which (Table C) stood at 32·33 per thousand in 1835-37, averaged (Table F) in the years 1847-51—51·22, and in the following decade 43·27. So Ross and Cromarty, where the ratios rose from 42·29 in 1835-37, to an average of 49·47 and 52·61.

The returns of particular parishes mark the stress of the change still more clearly. Thus in the following table, in which details are given of eight out of twenty parishes of which the statistics have been worked out:—

Ratio per 1,000 *Paupers to Population.*

	Year Count.						Day Count.
	1791-98.	1835-37.	1842.	1851.	1861.	1871.	1891.
Dunnet	—	44·59	55·31	53·53	91·88	80·07	51·74
Latheron	18·72	27·49	28·54	53·13	90·30	77·29	55·48
Thurso	—	40·39	35·54	49·64	68·33	76·46	42·65
Wick (Caithness)	30·00	27·20	21·26	64·55	84·10	80·27	43·87
Applecross (Ross and Cromarty)	—	22·13	16·77	28·05	51·49	55·87	52·50
Glenelg	11·28	24·70	18·32	42·91	81·38	104·65	65·20
Kilmuir (Inverness)	29·05	95·75	16·55	105·44	61·48	47·13	50·12
Kilbrandon (Argyll)	24·27	86·83	32·66	91·36	94·13	37·82	81·32

[90] Evidence of Mr. W. Smythe, "Select Committee of House of Commons, "1869." *Q.* 93.

The monetary attraction of the new system may be gauged by the following table :—

Expenditure Per Head of Population.

	1835–37.	1842.	1851.	1862.	1871.	1891.
	s. d.	*d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
Dunnet	– $5\frac{3}{4}$	$4\frac{3}{4}$	3 $1\frac{1}{2}$	5 $-\frac{1}{2}$	5 11	6 7
Latheron	– $1\frac{1}{2}$	$1\frac{1}{2}$	2 $8\frac{3}{4}$	5 $6\frac{1}{4}$	6 $10\frac{3}{4}$	9 $-\frac{1}{4}$
Thurso	– $3\frac{1}{2}$	$5\frac{1}{2}$	3 10	4 $11\frac{3}{4}$	6 $3\frac{1}{2}$	7 $2\frac{1}{2}$
Wick	– 2	$3\frac{1}{2}$	3 $10\frac{1}{2}$	5 $2\frac{1}{2}$	5 $6\frac{1}{2}$	7 $2\frac{3}{4}$
Applecross	– $1\frac{1}{4}$	$-\frac{3}{4}$	1 $3\frac{1}{4}$	3 $-\frac{3}{4}$	6 $3\frac{1}{2}$	9 $5\frac{3}{4}$
Glenelg	– $1\frac{1}{4}$	$1\frac{1}{4}$	2 $7\frac{3}{4}$	7 2	10 $2\frac{1}{2}$	11 $1\frac{3}{4}$
Kilmuir	– $-\frac{1}{4}$	—	3 $10\frac{1}{2}$	3 $7\frac{1}{4}$	4 $2\frac{1}{4}$	5 $11\frac{1}{4}$
Kilbrandon	2 3	$4\frac{3}{4}$	4 $6\frac{3}{4}$	8 –	8 $10\frac{1}{4}$	13 $-\frac{3}{4}$

It might almost be said that in the Highlands the new poor law added one more to those economic convulsions that had already shaken them. The effects, it is evident, have not yet been neutralised; the poor rates rose rapidly under the new system. Mr. Smythe quotes Tingwall, where the valuation was 2,975*l.*, and the rate 582*l.* 11*d.*; and he says, "That is a sort of state of things "which it is very difficult to remedy, unless you remove the "surplus population, and remove the paupers. . . . These persons, "instead of being maintained by the rental, that is to say, by the "proprietor, were maintained by their neighbours. . . . I do not "think the numbers have increased, but they have been brought "out more prominently. They have been enrolled and registered. ". . . The question is, whether they were adequately relieved "before. . . . They were fairly taken care of. . . . The kirk session "did not relieve where they knew that there were relations that "could assist."[91]

In fact, the change was this: the rich now supported the poor whereas, as Dr. Auld said in the "Statistical Account," the poor used formerly to support the poor. The burthen was now shifted, and the claimants now concentrated their demands on the common purse, and troubled their relations less and probably begged less.

Emigration was in part a remedy, but it is a question whether the poor law did not check it. In any case, "the paupers" were not "removed." There was a decrease of population in Sutherland and Argyll in 1841, as compared with 1831; but it was not till 1871 that the decrease was persistent, not only in these counties, but also (for instance) in Caithness, Ross and Cromarty, Inverness, and Orkney and Shetland.

[91] *Q.* 71, &c.

The problem of pauperism remains in parts of the Highlands, as the day count of 1891 indicates. The people have but a very small reserve with which to meet a year of want. The appointment of the Crofters' Commmission is evidence of this,[92] and, amongst other documents, the recent elaborate report on the Island of Lews.

In the Towns.

Passing to the larger town parishes, of twenty-four of which statistics from 1831 to 1891 have been worked, we find similar results. The double effect of the new poor law and of the bad years is expressed in the figures; but if we compare 1871 with 1842, it must be admitted that the registered pauperism of a comparatively bad year now rises much higher than it did before 1845.

Rates per 1,000 *of Paupers and Population.*

Parishes.	Year Count.					Day Count.
	1842.	1851.	1861.	1871.	1881.	1891.
Aberdeen	59·86	32·82	91·60	76·81	60·56	26·26
Kilmarnock	25·45	61·07	126·80	72·36	34·10	22·52
Edinburgh	62·46*	109·40	111·54	139·48	61·63	26·92
Barony	18·17	53·04	98·09	84·97	59·57	18·21
Glasgow	30·30	128·73	65·22	72·22	56·94	27·17

* For 1835-37.

In Table E similar figures are given in regard to the nine large towns—the parishes being grouped for the purpose.

Inadequate Relief.

In the agitation that led to the poor law inquiry of 1843-44, more stress was laid on the inadequacy of relief than on any other point. To this, and to the low state of health resulting from it, were attributed in great degree the constant fevers that infested the lower quarters of the large towns. The urgent need of sanitary reform was being recognised for the first time; and in that probably the remedy really lay. But the inadequacy of relief was apparent when tested by the higher standard by which the people were now judging of sufficiency in material resources. The figures we have quoted show how small were the allowances given to the poor in the Highlands. In Edinburgh at the charity

[92] "Report of Commissioners of Inquiry into the Condition of the Crofters "and Cottars in the Highlands and Islands of Scotland." See Appendix (1881), and subsequent reports as to emigration and reduction of rents.

(city) workhouse, 1*s.* a week was given to a widow and one child; 1*s.* 2*d.* if there were two; 1*s.* 8*d.* if there were three; and 2*s.* 6*d.* if there were four children.[93] In Glasgow the sessional poor received 4*s.* to 5*s.* or 6*s.* a month.[94] The out-door poor on the monthly list received 3*s.* to 4*s.* each; on the quarterly list 5*s.* to 35*s.*; and those on the "meal roll" received 4 to 12 lbs. of meal a week. There was much begging, and the inadequacy of the relief was thought to be the cause of the begging. Probably it was, though one good witness, whose sagacity has been proven by subsequent experience, said, "the matter of amount in giving relief would not diminish or "increase the number of applicants. Still it would be the same "class that are driven to destitution who would apply, except in "such circumstances as have occurred in the present year; it "might limit their other sources of relief, because parties knowing "they had proper relief, would not contribute to their support."[95] The lower section of the poorer class form their social habits according to their own desires, but also according to the sentiments of the classes just above them, on whom they tend to become parasitic. Begging, as we have seen, was a recognised method of obtaining relief. The people had become habituated to it, and for a long time but little harm was thought of it. But the very growth of society brought it into discredit, and to the richer classes it became a nuisance. The cities expanded. Between 1792 and 1820 we find both Edinburgh and Glasgow enlarging their bounds. The Canongate, for instance, about 1792 was already being abandoned by the better classes, a process that is complete before 1840. In such a parting of the classes the beggar and his patron were alienated. The beggar's plea, which was before met with resignation, if not with cheerfulness, became a nuisance. Both classes had been brought up to a system of relief, the evils of which were becoming obvious to the migrating resident of the suburbs, but for which the dependent class had found no substitute. It was the period of Mendicity Societies, which worked for a short time with good results. That at Edinburgh provided loans, promoted savings banks, and furnished employment according to the methods of the time—strawplaiting, needlework, &c., and gave food. They preached some sound doctrine also which had its effect later on.[96] Sometimes, as at Jedburgh and Selkirk, they provided refuges,

[93] "Poor Law Inquiry." Small. *Q.* 41.
[94] "Poor Law Inquiry." Stirling. *Q.* 5451. Hill. *Q.* 5260.
[95] J. Wright. *Q.* 3061.
[96] "Third Report of the Society for the Suppression of Beggars," instituted in Edinburgh in 1813. They write, for instance, "Investigation is the foundation "of every act of real benevolence to the poor; and the adaptation of the relief to "their real wants, the only means of preventing the misapplication of the charity "of the public."

which still exist, as we shall see, as "shelters." At Edinburgh too there was a refuge that accommodated sometimes as many as 422 persons at one time. The begging of the poor, however, especially of those who already had allowances, was ascribed to the inadequacy of relief. History indeed repeats itself. The Act of 1597 required that the poor should be so relieved by the local authority that they should "live unbeggand;" accordingly it directed that there should be assessments. It authorised licensed begging, however, and the clause which enjoined assessment was taken as permissive. Now again reform was demanded on the ground that the inadequacy of relief was the cause of mendicancy. Mendicancy, interpreted as an indication of want, may, indeed, be said to be the mother of the poor laws, both in England and Scotland. It represents the popular habit of mind that would recognise as the actual cause of any phenomenon facts or conditions that happen to accompany it. So now, very naturally, the evil was once more to be met by assessment, still left permissive, but, if adopted, adopted and settled by a local representative body under the general supervision of a central authority. As we have shown, many forces furthered the increase of assessments. In 1865, twenty years after the introduction of the new poor law, out of 865 parishes 108 only were unassessed, chiefly parishes in which the proprietors preferred the older system. In 1891 there were but 49 unassessed parishes.

What is Adequate Relief?

Though assessments became general, one chief difficulty remained.[97] What was adequate relief? It was the more necessary to settle this, because the applicant could lodge a complaint with the Board of Supervision that his relief was insufficient, and the board would have to adjudicate on it; and if they thought there was just cause the case might go into court. Properly, the rate of adequacy would be different in different parts of the country—in a highland, lowland, or urban population. In the Highlands, and perhaps generally, the rate might, I think, be termed a meal rate—at least this is how Sir John M'Niell put the case, when challenged.

Question: "Do you think that 2*s.* or 2*s.* 6*d.* or (as it has been "in some cases, I think) 1*s.* a week, is sufficient to keep body and "soul together?

Answer: "I think so. If you were to go very strictly into that, "the quantity of meal that an able bodied man who is in full work "requires to maintain himself is something about 2½ lbs. a day, that "is about 2½ pecks a week; and that is reckoned, from inquiries that

[97] *Cf.* Smythe. *Q.* 87.

"have been made, sufficient for an ablebodied man. Then for a "person who is not in hard work, say for a woman, perhaps a peck "of meal is reckoned sufficient, a pound a day. Now if you turn "that into money, you find that 2*s.* a week is perhaps sufficient."[98] In the Highlands the rent was small, sometimes nil, and a potato patch and other gratuitous helps were procurable; and the relief for some time after the new poor law, if not even at the present time, was often less than the 2*s.* scale here alluded to.[99]

Probably there is in the administration of all out-relief a tendency to make it rent-relief. In Scotland there is no poor law "order," preventing the authorities from paying rent; but relief must be given to an applicant direct, and not to a third person. The third person, however, it was found, was apt to intervene, and he came in as landlord.[100] As we know, in England, before the new poor law came into force it was a common practice to pay paupers' rents. We commonly hear the plea: "I should just "like enough to pay my rent," and we find that in careful households the first consideration is to lay by the money for the rent. It is natural, therefore, that in trying to ascertain how they could patch up partial or apparent destitution by partial relief, poor authorities should give relief of an amount that approximates to the amount of rent. Thus in Edinburgh allowances of 1*s.* a week were given; and in an inquiry made respecting 400 cases in which the parties were living in a low class tenement, it was ascertained that they paid rents of 1*s.*, 9*d.*, and even 6*d.*; but those who paid 1*s.* a week considered themselves permanent tenants.[101] So in the Highlands and elsewhere, the low rents would suggest, and, in the eyes of a board would, in a manner, justify, a low out-relief; and, on the other hand, the standard of adequacy would rise with an increase in the rentals of the poorer class.

Another practical definition of adequacy was that attained in the particular case by the application of the test of the poorhouse.[102] The Act of 1845 defined the uses of the poorhouse, partly as an asylum for the aged, partly as the abode of the dissipated; but it, as well as the Report of the Commission of

[98] M'Niell. *Q.* 796. *Cf.* also his "Reports on Highland Districts."

[99] *Cf.* M'Niell, 1894.

[100] Report of Superintendents; Annual Reports of the Board of Supervision; the Local Government Board for Scotland in their second report (1885-96), in their circular on poor law administration to the parish councils, that now take the place of the parochial boards, wrote: "The rents of paupers' houses should not "(except in exceptional circumstances) be paid or guaranteed by the parish council. "It has been found that when paupers are left at liberty to act for themselves, they "obtain easier terms from their landlords than when the inspector or his council "intervene."

[101] Allan. *Q.* 3046. "Poor Law Inquiry," 1844-45.

[102] *Cf.* Smythe. *Q.* 180 (1869), and the reports of the board.

1844-45, is careful to avoid the assumption that the Scotch poorhouse is to be like an English workhouse; and, apparently, the earliest use made of the poorhouses, after the Act, was as a test of adequacy—a line already adopted in the city of Edinburgh. Of the administration there, it was stated, "if an aged person says: I "cannot live on this" [small allowance], "then he has the choice "of the house. . . . But usually parties are unwilling to enter the "house."[103] Here, as elsewhere, it will be noted, first, the out-relief was given, and then, on complaint, its adequacy was tested. Such a procedure is not unknown in England at the present time. But the poorhouse was used also as a test of the existence of distress[104]—a system which, as we shall see, is practically the same as that advocated by those who desire the careful administration of poor relief in England. How far, in the transition to the new system, the poorhouse was sometimes made the instrument for forcing adequate relief on a reluctant people, the following extract from Sir John M'Neill's evidence shows:—

"In the Highlands," he says, "we find the greatest difficulty in "inducing elderly women, especially those who have cots of their "own, to go into the poor house, even when they are in a most "miserable condition. We have had on several occasions to instruct "the inspector to apply to the sheriff for a warrant to compel the "pauper to remove from a house that was likely to tumble about "him on the score that it was dangerous to life. They have a most "catlike tenacity to the cottage they have lived in."[105]

The general adoption of assessments of itself led to an increase in the rate of relief. Funds formerly husbanded with care, possibly with parsimony, were more freely dispensed. "A rate-"payer," it was said, "has no interest—at least it is so infinitesi-"mally small that it is equal to none—in keeping a pauper off the "roll."[106] Partly too the country was becoming richer. Assessments yielded more, and the rate pressed less heavily. The valuation of the country had more than doubled since 1845. In 1847 it was 10,053,142*l.*, in 1892 23,879,566. The standard of living and wages had risen considerably: it was but consistent to grant larger out-relief to applicants. The old theory had been that relief should be given on a low scale, on the understanding that relations and friends made up the total that was required. Subsequently, excepting in the case of the legally responsible relations, and they, it is evident, were not severely taxed,[107] the administration

[103] Mackay. *Q.* 354, &c. "Inquiry" of 1844-45.

[104] *Cf.* Smythe, M'Niell; and as to Glasgow, Muir. *Q.* 2572.

[105] M'Niell. *Q.* 1401. "Inquiry," 1869.

[106] "Inquiry," 1869. Smythe. *Q.* 321.

[107] "Inquiry," 1869. Smythe. *Q.* 132; and Fraser, 893, and reports of superintendents, containing lists of cases improperly relieved.

"did not at all consider the duty of relations to support their own "poor. . . . Practically they acted on the basis of absolute right "to relief."

In his advocacy of a new poor law, Dr. Alison said that nearly 800,000*l.*[108] a year would be required to make the poor relief adequate. In 1891, apart from expenses of management, 723,182*l.* was expended on relief. Including these expenses, and the charges for pauper lunatics, the average annual cost of a pauper was in 1891 9*l.* 4*s.* 10¼*d.* In 1834 it would have been about 1*l.* 11*s.* Comparatively then adequacy may be said to have been achieved—so far as, except within very prescribed limits, adequacy is possible.

The Refusal of Relief, and the Poor House.

A further measure of adequacy is perhaps the number of complaints of paupers on the score of inadequacy. In 1848 they were 673, in 1891 they were only 157; and upon 127 of these the decision of the board was "refused: poorhouse." The offer of the poorhouse is in Scotland an adequate offer of relief.

The refusal of relief has there also an importance that has not been attached to it in England. There are returns of the refusals, for in regard to these the applicant may apply to the sheriff for a reversal of the board's decision. They too tend to decrease. In 1847 they numbered 5,841; in 1851 9,624. In 1891 they were 29·5 per cent. as compared with 1871.[109] Possibly, as in England, they may become unimportant, though the applicants' right of appeal to the sheriff give them weight.

In addition to the refusal of relief, there is, as we have seen, the offer of the house. By 1883 the conditions on which this offer should be made had been gradually systematised, and were then formulated.[110] Accordingly inspectors and boards were advised that "experience has established that it is hurtful to grant relief "otherwise than in the poorhouse to the following classes: "(1) mothers of illegitimate children, including widows with "legitimate families who may fall into immoral habits; (2) deserted "wives; (3) persons having grown up families settled either in "this country or abroad; (4) persons having collateral relations "in comfortable circumstances; (5) wives of persons sentenced "to terms [or as a later draft has it—any considerable term] of

[108] "Observations on the Management of the Poor in Scotland, 1840," p. 108.

[109] The table of these refusals has been drawn up according to counties and is instructive.

[110] See "Reports of Superintendents, and rules, instructions, &c., by the Board "of Supervision (1840)," p. 112, also the "Poor Law Administration Report of "Local Government Board for Scotland (1895-96)," p. 11.

"imprisonment or penal servitude; (6) generally all persons of "idle, immoral, or dissipated habits."

The circular of the Local Government Board (October, 1895) restates these propositions and proceeds thus:—"The inmates of a "poorhouse may be broadly divided into two classes: (1) the test "class; (2) the aged, sick, and infirm." It is obvious, the circular states, that "the treatment of the two classes should be "conducted on widely different principles. As regards the first "class, strict discipline and deterrent administration are needed to "make the test effective, and to secure order and decent conduct. "As regards the second, the poorhouse should be looked upon "rather as a 'house of refuge for the destitute,' and the inmates "should receive liberal sympathetic treatment."

The counsel given in the above circulars takes the place of any "out-door relief regulation order." In spite of its reservations, it suggests a fairly stringent test; and if the clauses (3) and (4), in regard to applicants who have grown up families, or who have collateral relatives in comfortable circumstances, were generally applied, it would certainly represent a practice as strict as that usually adopted even in carefully managed unions in England.

In fact, apart from the "habituals," the poorhouses or workhouses in Scotland and England alike tend to become "houses of "refuge for the destitute—especially the sick, the aged, and "decrepit;" and so probably in a great measure it has always been,[111] except at times of gross and exceptional mismanagement. In country districts alike in Scotland and in England, the poorhouses are now more than half empty.[112]

Unfortunately it is not possible from the returns to ascertain what is the proportion of in-door to out-door paupers in parishes in Scotland, so as to draw any comparison between them and unions in England.

The Ablebodied and the Vagrant.

The Act of 1845 expressly excludes ablebodied persons from the receipt of poor relief, but it does so in a paragraph the principal object of which is to remove any doubt as to the legality of occasional relief, which had previously been considered an expenditure from voluntary sources, since from assessments only permanent cases, as defined above, the sick, the "cruiked," and the aged, could, it was thought, be relieved. The words are, "Provided always that "nothing herein contained shall be held to confer a right to "demand relief on ablebodied persons out of employment."

[111] Burns, *re* Paisley poor house, &c.

[112] Departmental Committee on Habitual Offenders, &c. (1895)," p. 536.

In 1844 it was said in regard to Edinburgh, that "though the "law did not recognise, as in England, the ablebodied poor, yet "there were an immense number who got upon the poor roll who "were really and truly perfectly able and competent to work for "themselves."[113] And before the Act of 1845, in times of exceptional distress, ablebodied persons had been relieved, as occasional poor, from funds raised by collection or even by assessment. Nevertheless they had, it was clear, "no right to demand "relief."[114] After the Act of 1845 this phrase was construed literally. The ablebodied who were out of employment had no right to *demand* relief, but in emergency it might be given them. It was on this understanding that relief from assessments was provided in 1846-47 during the potato famine. This construction of the Act was, however, called in question, and in 1859, on appeal, disapproved. Since that time, accordingly, in emergencies reliance has had to be placed on voluntary aid for the relief of the unemployed.

Nevertheless a lenient interpretation has been placed on the Act. Though the parochial boards can only expend their funds on persons who are "both destitute and (wholly or partially) "disabled," they have been told that "in the case of a person "really destitute the letter of the law should not be carried to an "extreme," for "if a person is *really destitute*, no long period will "elapse before he becomes *disabled* for want of food."[115] In fact the difference between England and Scotland on this point seems likely in practice to disappear. In Scotland as in England the returns of pauperism rise in a year of scanty employment. As much in England, where there is a public provision for the ablebodied, as in Scotland, where there is not, voluntary agencies enter the field at a time of emergency. There are very few ablebodied paupers in England now—about three per thousand of the population; and even these are not strictly speaking "ablebodied." They would most of them pass the doctor at a Scotch town poorhouse. Hence probably, apart from that class who would pass as ablebodied, but are really often feeble in purpose or body —the "habituals," the "ins and outs," and the rest, the ablebodied poor on the verge of dependence are kept at bay during the greater part of their life equally well on both systems. But Scotland probably has one advantage still. Owing to the absence of any legal provision for the really ablebodied poor, her parochial boards or parish councils are less likely to be tempted to give

[113] Lewis. *Q.* 4671. "Inquiry of 1844-45."

[114] See "Replies, Poor Law Inquiry, 1834," Appendix 4; and as to Greenock, "Appendix, part 1," p. 493.

[115] "Report by the Board of Supervision on the Relief of the Ablebodied "Unemployed, 1893-94."

out-door relief on a large scale with or without a labour test to ablebodied persons, as in the spring of 1895 was done by several boards of guardians in the metropolis.

But the Scotch law affects the question of vagrancy more closely. In the case of the vagrant too the social habits of the past must be considered in relation to the development of the system of poor relief.

Before 1845 the method of "passing" vagrants was in force. It prevailed alike in England and Scotland.[116] The counties had constables or pass masters, under whose charge vagrants who were "passed" were placed, and each county arranged that the vagrants should be taken or helped to reach the limit of the county, when the next pass master took over the passengers and so on. The vagrants were actually paid to go. In Middlesex the terms were 3*d.* a mile for cartage, 6*d.* a head for maintenance, and 5*s.* to the constable for the journey. The process being thus lucrative, many were glad to continue it. In fact a double bounty was put on vagrancy. The vagrant was paid, and the vagrant officers—constables and the rest—were paid also. Thus Middlesex, in 1832, passed 9,576 paupers, at a cost of 2,950*l.*[117] On the English border, a witness said, "the ground is paid for walking principally "from Warrington, at the borders of Lancashire, to Burton-on-"Kendal, a distance of 63 miles, for which they get three days' "pay, 1*s.* 6*d.*, and two nights' lodging is 2*s.*—that added to half-a-"crown is 4*s.* 6*d.* a head they get for walking over that ground "instead of being conveyed; and when they go and deliver the "pass which they carry to a constable or pass master at Burton "on-Kendal, he being the last person who ought to deliver them "into the first precinct in Scotland, he contracts for their convey-"ance, and having no further occasion for them, he gives them "what he can agree with them for, and puts the difference in his "own pocket."[118]

In Scotland there was a similar practice. Probably the management was more economical; but vagrancy had the added attraction of payments and passes, and indeed, under such patronage assumed a kind of licence.

Till we come to the night counts of the Chief Constable for Scotland, we have no sufficient statistics of vagrants; but they appear to have been, as they still are, a great plague—a heritage, however, which, till some fifty years ago, the country, with the

[116] "Poor Law Inquiry, 1844-45;" Thompson, *Q.* 1900, and others as to Edinburgh; as to Glasgow, Hill, *Q.* 5306. Ross, *Q.* 5524.

[117] "Report of the Select Committee on Irish Vagrants," June, 1833; and also evidence taken by the Commission on the State of the Poor in Ireland, 1830.

[118] "Inquiry of 1833." Bates. *Q.* 249.

fear of "settlements" before its eyes, unwittingly, no doubt, did its best to encourage.

After the Act of 1845 the practice of the authorities was changed. Before that time the vagrants ought not to have been helped by them, if they were ablebodied. By the Act of 1845 they were "ablebodied persons out of employment," and therefore ineligible for relief; but if they are both destitute and ill, they are eligible. Accordingly, if the vagrant cannot pass, or rather fail at, his medical examination, he is a, possibly destitute but certainly, unrecognised wanderer. The police enumerate him. The poor law provides for him no casual ward. He must "fend" for himself. But here too, in practice at least, the rigour of the law has, in a degree, been abated. In and after 1848 the board of supervision promoted the establishment of the shelters like those at Jedburgh and Selkirk. These are sometimes administered by the police, sometimes by them in conjunction with the parochial board. They are "shelters," not casual wards of the more recently approved style, and are now said to increase vagrancy. Unrecognised by the poor law, the vagrant, it appears, turns even to the police for help; and thus, in 1893, at Glasgow, 5,309 persons were sheltered in the police offices on their own solicitation.[119]

The logical conclusion would seem to be, that in Scotland the ablebodied vagrant should be provided for by charity or should beg —unless indeed, as may be quite right, he should be left to himself and tolerated. In fact, partly perhaps as a result of the limitations of the Scotch poor law system, private benevolence has been extremely active in supplying accommodation in the large towns at cheap common lodging houses, and, even more than in England, attention has of late been turned towards the establishment of institutions or colonies for the reformation of the habitual vagrant.

The night count of vagrants made by the police in Scotland gives the following results:—

	Total.	Ratio per 1,000	
		In Counties.	In Boroughs.
23rd December, 1888	8,302	2·38	1·8
27th ,, '95	7,967	2·47	1·4
21st ,, '96	10,049	3·13	1·87

The summer count, introduced since 1889, is always higher.

[119] "Departmental Committee on Habitual Offenders, 1895." *Q.* 46, 5843, &c.

In England we have only the recent night count taken at the casual wards to set against these figures, which, however, include vagrants found in prisons, poorhouses, common lodging houses, and the open air.

The English figures are: 1st January, 1897, 6,922, ·02 per thousand of population.

No night counts of vagrants in prisons, &c., have been made in England. In Gloucestershire a night count of vagrants in common lodging houses and casual wards (1893) gave only 194 out of a population of 548,886. It is not likely, therefore, that the total number of vagrants in England is large; it is indeed less on the whole, I am inclined to think, than it is in Scotland. A chart shows that vagrancy in England and Scotland has risen or fallen much at the same time, and it is difficult to to say whether the differences of the systems of relief affect it at all. The total amount of vagrancy, in any case, is much smaller than it is generally supposed to be.

Old Age Pauperism.

Statistics of old age pauperism are forthcoming for 1892-94. Probably the last return is the most accurate. It gives the following figures:—

Scotland, Day Count.

	Population Over 65.	Paupers and Dependants Over 65.	Ratio per 1,000 of Paupers to Population. 65.
1894.....	203,096	22,563	111·09
	England and Wales, Day Count.		
'92.....	1,372,601	268,397	195·5

The ratio in many counties of Scotland is higher than 111; thus in Sutherland it is 171·82; in Lanark 127·02. Returns are also given as to the towns (see Tables H and I). The figures for England and Wales corresponding to those for Scotland as a whole are placed beside those for Scotland in the above table.[120]

[120] The Report of a Committee on Old Age Pensions and Pauperism, appointed in December, 1893, by the inspectors of the poor in Scotland, is of interest. It indicates the distribution of old age paupers and the extent to which such paupers were born in Ireland. Under the heading "Cities and Towns," the returns of the parishes of Barony, Govan, Perth, Abbey, Greenock, and Old Machar, are given. They had a population of 797,253. The applicants over 65 in the year ending 14th May, 1892, numbered only 1,682; and of these 524 were Irish. Under the heading "Mining Districts," the returns of Old Monkland and New Monkland and Bothwell are given. They have a population of 109,960. The

England.

The comparison in the table tells against England very seriously. The key to the difference lies probably in the relative pauperism of the two countries forty or fifty years ago. England has had to work her way out of a pauperism that did not exist in Scotland. In England probably the not ablebodied pauperism in 1851 amounted to about 215 per 1,000 of the population over 60 years of age, *i.e.*, if we take the not ablebodied as persons usually over 60 years of age.[121] The total pauperism of 1851 in England and Wales was 4·5 per cent. on the day count. In Scotland by the *year* count it was 4·9 per cent.

Conclusion.

The lower pauperism of old age that there appears to be in Scotland suggests the consideration that after all the leaven of the older Scotch principles applied to the administration of relief has continued to work. Dr. Chalmers's position, as we have shown, had become untenable. It can now be held only by those who accept a partnership between poor law and charity and are prepared to divide the land between the two, leaving institutional relief to the poor law, and assigning home or out relief to charity. The poor law in Scotland, as the economic condition of the people improved, did not perhaps entail the cost that he anticipated—but certainly, if there had not been that economic improvement, the poor rate would have been a very heavy and distasteful tax, and assessment might, as he feared, have bred an excessive crop of pauperism. At the present time the returns of pauperism in Scotland and in England and Wales stand thus, though the comparison can be only approximate, on account of the different methods of compiling the statistics in the two countries.[122]

	Mean Pauperism.	Ratio per 1,000 of Paupers to Population.
Scotland	3 day counts, 1891	22
England and Wales	2 ,, ,,	26

applicants over 65 here numbered 313, of whom 140 were Irish. In the agricultural parishes of Kilmarnock, Dumfries, Ayr, Maybole, Langholm, and Penninghame, in a population of 72,157, there were 311 applicants over 65, of whom 84 were Irish; and in the fishing parishes of Peterhead and Campbeltown, in a population of 26,090, there were 74 applicants over 65, but of these only four were Irish.

The aged applicants were most numerous in the agricultural parishes, 0·30 per cent. on the population: in the fishing parishes 0·28 per cent.; and 0·14 alike in the mining and the urban districts.

[121] "Statistics of General and Old Age Pauperism," printed by the Charity Organisation Society, 1894.

[122] The two systems should be analysed in detail, in order that if possible proportional differences between the two may be ascertained.

The methods then of the two countries have by degrees become more and more alike, and, except in regard to old age pauperism, so are the results in each; and this in spite of assessments. In poor relief generally Scotland does not now excel England, as it once did; but in both countries the pauperism is low; and it may be that a force which we may call social repugnance is acting instinctively on the people of both countries, to prevent their demanding the relief which, if they were to sacrifice their scruples, they could probably obtain so readily. Thus possibly, while the institutions and methods of the poor law are elaborated at an expenditure to which only a very rich nation would submit, there may be in the minds of the great mass of the people a growing dislike to public aid, at least when it comes to them in the plain and straightforward guise of poor law relief, and when those who receive it by the very act become paupers. For the individual, whom we know and care for, who may have to receive poor relief, we may regret this; for the mass it can only be a safeguard. In Scotland, as we have seen, the burthen of support under the assessments was shifted from the relation and the neighbour—from the poor indeed—to the rich. Something undoubtedly was lost to the nation in this change, something of hardihood, of the sense of responsibility, and above all of the intensity of family feeling and affection. Under the modern system, which, as we have seen, produced serious consequences when it was first introduced, some repellant force in society must keep the attractions of poor relief at a distance from those who are likely to be influenced by them. As this influence prevails, the better instincts which represent the real and underlying vitality of our race find their rightful scope, and may express themselves as strongly as they once did in the life of the nation. Since 1891 the new Local Government Acts have been introduced into both countries, and now probably more than ever our security against pauperism depends on the existence and growth of these healthy instincts. If the spirit of social repugnance succeeds, as the statistics seem to show that it may, in turning the people aside from such personal advantages as the poor law or any other public authority may offer to them, we may count upon it as a protective force; or indeed we may place upon it a yet higher value. We may realise that the hard exterior of this social repugnance preserves within itself some of the finest and strongest elements of our noble national character, the decay of which would be our greatest grief.

TABLE A.—*Parishes with reports as to Pauperism in* "Sinclair's Statistical Account of Scotland, 1791-98," *arranged by Counties.*

1 County.	2 Population of County, 1791-98.	3 Total Number of Parishes reported (vol. xx, p. 587, &c.).	4 Parishes reported without Statistics as to Pauperism.	5 Population of these Parishes.	6 Parishes with Statistics as to Pauperism.	7 Population of these Parishes.	8 Remarks—Parishes without Statistics as to Pauperism. These are described as "Urban," "Rural," &c., according to the account in the Survey.
1. Dumfries	52,329	42	8	8,685	34	43,644	Ewes, Hutton and Corrie, Tundergarth, Cummertrees, Ruthwell, Caerlavrock, Glencairn (rural), Annan (partly urban)
2. Kirkcudbright	26,959	28	7	4,930	21	22,029	Terregles, Colvend, Kirkpatrick-Durham, Buittle, Kirkgunzeon, Carsefairn, Twyneholm (all rural)
3. Wigtown	20,983	17	7	8,172	10	12,811	Penningham, Glasserton, Kirkowen, New Luce, Old Luce, Kirkmaiden (rural), Stranraer (urban and rural)
4. Ayr	75,035	46	19	31,481	27	43,554	Ayr, Irvine, Beith (chiefly urban), Kilmaurs, Loudoun (rural and mining), Maybole, Muirkirk, West Kilbride, Kilbirney (rural and manufacturing), Ballantrae, Colmonell, Barr, Kirkoswald, New Cumnock, Stair, Auchinleck, Dreghorn, Fenwick, Tarbolton (rural)
5. Bute	11,072	5	2	1,236	3	9,836	Cumbray, Kingarth (rural)
6. Renfrew	62,853	17	5	21,844	12	41,009	Greenock, Kilbarchan, Renfrew (urban), Mearns (rural and urban), Innerkip (rural)
7. Dumbarton	18,408	12	5	8,511	7	9,897	Old Kirkpatrick, Kirkintilloch, Cumbernauld (urban), Row, Kilmarnock (rural)

Note.—Among the parishes included in Col. 5 are one or two in regard to which the statistics of pauperism have been obtained from other sources than the "Statistical Account." Thus, for Paisley (1792), Glasgow (1808), Edinburgh City (1805), Alloa (1776-90), Stirling, and Eastwood (1793), figures have been taken from Burns, pp. 304, 374, and 418.

TABLE A *Contd.—Parishes with reports as to Pauperism in* "Sinclair's Statistical Account of Scotland, 1791-98."

1 County.	2 Population of County, 1791-98.	3 Total Number of Parishes reported (vol. xx, p. 587, &c.).	4 Parishes reported without Statistics as to Pauperism.	5 Population of these Parishes.	6 Parishes with Statistics as to Pauperism.	7 Population of these Parishes.	8 Remarks—Parishes without Statistics as to Pauperism. These are described as "Urban," "Rural," &c., according to the account in the Survey.
8. Lanark	125,254	41	10	18,985	31	106,269	Cambuslang, Old Monkland (urban), Cambusnethan (rural and mining), Crawford-John (rural and mining), Wiston, Symington, Carstairs, Pettinain Gorbals (rural), Govan (urban)
9. Stirling	48,583	24	5	8,701	19	39,882	Lecropt (rural), Balfron, Logie, Larbert and Dunipace (urban and mining), Denny (rural)
10. Linlithgow	17,570	13	4	3,135	9	14,435	Carriden, Uphall (rural and mining), Abercorn, Ecclesmachan (rural)
11. Edinburgh	122,655	31	9	57,315	22	65,340	Dalkeith, North Leith, South Leith (urban), Liberton, Cranston, Crichton, Fala and Sontra, Temple (rural)
12. Peebles	8,107	16	8	5,506	8	2,601	Newlands, West Linton, Kilbucho, Glenholm, Tweedsmuir, Stobo, Peebles, Innerleithen (rural)
13. Selkirk	4,943	5	1	914	4	4,029	Galashiels (rural and manufacturing)
14. Roxburgh	32,391	31	6	4,813	25	27,578	Castletown, Cavers, Lilliesleaf, Morebattle, Makerston, Smallholm (rural)
15. Berwick	29,915	31	12	9,656	19	20,259	Ladykirk, Whitsome, Foulden, Ayton, Eyemouth, Coldingham, Abbey of St. Bathans Boukle, Chirnside, Mertoun, Legerwood, Westruther (rural)
16. Haddington	28,866	24	11	12,151	13	16,715	Dunbar (urban), North Berwick (partly urban), Bolton, Stenton, Oldhamstocks, Prestonkirk, Whitekirk, Athelstaneford, Aberlady (rural), Pencaitland, Ormistoun (rural and mining)

TABLE A *Contd.—Parishes with reports as to Pauperism in* "Sinclair's Statistical Account of Scotland, 1791-98."

1 County.	2 Population of County, 1791-98.	3 Total Number of Parishes reported (vol. xx, p. 587, &c.).	4 Parishes reported without Statistics as to Pauperism.	5 Population of these Parishes.	6 Parishes with Statistics as to Pauperism.	7 Population of these Parishes.	8 Remarks—Parishes without Statistics as to Pauperism. These are described as "Urban," "Rural," &c., according to the account in the Survey.
17. Fife	87,350	60	16	17,081	44	70,269	Anstruther-Easter, Newburgh, Burntisland (urban), Inverkeithing (urban and shipping), Ceres, Aberdour (urban and mining) Kilrenny, Cameron, Kemback, Leuchars, Balmerino, Kilmany, Criech, Flisk, Abdie, Dunbog (rural)
18. Kinross	5,302	4	2	3,544	2	1,758	Orwel (rural), Kinross (rural and small trades)
19. Clackmannan	8,749	4	—	—	4	8,749	
20. Perth	130,706	73	20	47,535	53	83,171	Perth (urban), Tulliallan, Dumblane, Kilmadoc (urban), Dunkeld (urban and rural), Port, Fortingall, Monzie, Foulis, Monedie, Kinclaven, Rattray, Collace, Cargill, Dumbarny, Dron, Glendovan, Inchture, Blackford (rural)
21. Forfar	91,649	53	9	10,584	44	81,065	Mains (rural and manufacturing), Murroes, Essie, Carmylie, Arbirlot, Marytown, Dun, Fearn (rural), Brechin (urban)
22. Kincardine	27,491	20	3	4,662	17	22,829	Fettercairn, Strachan, Dunnottar (rural)
23. Aberdeen	119,709	80	19	20,294	61	99,415	Belhelvie, Midmar, Aboyne, Leochel, Glenbucket, Kildrummy, Auchindoir, Clatt, Rhynie, Cairney, Huntly, Culsalmond, Insch, Premnay, Monymusk, Bourtie, Daviot, Lonmay, Crimond (rural)
24. Banff	40,987	25	8	7,156	17	33,831	Alvah, Forglen, Inverkeithing, Boyndie, Ardiquhill, Bellie, Botriphine, Cabrach (rural)
25. Elgin	26,082	18	8	12,243	10	13,839	Elgin (urban), Rothes, New Spynie, St. Andrews Llanbryde, Alves, Kinloss, Dallas Edenkeillie (rural)

TABLE A *Contd.—Parishes with reports as to Pauperism in* "Sinclair's Statistical Account of Scotland, 1791-98."

1 County.	2 Population of County, 1791-98.	3 Total Number of Parishes reported (vol. xx, p. 587, &c.).	4 Parishes reported without Statistics as to Pauperism.	5 Population of these Parishes.	6 Parishes with Statistics as to Pauperism.	7 Population of these Parishes.	8 Remarks—Parishes without Statistics as to Pauperism. These are described as "Urban," "Rural," &c., according to the account in the Survey.
26. Nairn	7,606	5	—	—	5	7,606	
27. Inverness	72,427	30	16	45,320	14	27,107	Inverness (urban), Moy, Petty, Kincardine, Boleskine Laggan, Kilmalie, Kilmorack, Kiltarlity (rural), Portree, Duirinish, Snizort, Harris, North Uist, South Uist (rural and seafaring)
28. Argyll	76,101	38	15	30,180	23	45,921	Ardnamurchan (rural and mining), Knapdale, Jura, Inverchaolain, Kilmore, Kilninver, Lismore, Torosay, Morven, Kilninian (rural and fishing), Small Isles, Kilchoman, Kilmeny
29. Ross and Cromarty	55,430	33	8	15,316	25	40,114	Applecross, Gairloch, Lochbroom, Killearnan, Urquhart, Resolis, Edderton, Kincardine (rural)
30. Sutherland	25,259	14	5	8,745	9	16,514	Assint, Lairg, Clyne, Loth, Kildonan (rural)
31. Caithness	22,504	9	5	8,726	4	13,778	Thurso (urban), Olrick, Watten, Dunnet, Canisbay (rural)
32. Orkney and Shetland	43,239	29	12	15,671	17	27,568	South Ronaldsay, Hoy, Firth, Evie, Shapinshay, Rousay, Bressay, Walls, Delting, Nesting, Mid and South Yell, North Yell and Fetlar (rural and fishing)
Total	1,526,514	878	265	453,092	613	1,073,422	

Note.—The total of Col. 3 is 878; the total number of parishes in the "Statistical Account" is 938. In the above table, parishes which in the "Statistical Account" are grouped for purposes of population, though reported on separately, are taken as combined parishes. Hence the difference between the totals.

TABLE B.—SCOTLAND: 613 *Parishes. Population and Enrolled Pauperism,*

1 District.	2 Population of Parishes Reported in Sinclair's Account, with Statistics as to Pauperism, 1791-98.	3 Enrolled Paupers in those Parishes, 1791-98.	4 Ratio per 1,000 of Enrolled Paupers to Population, 1791-98.	5 Population of the same Parishes, 1831.
				NORTHERN
1. Orkney and Shetland	27,568	579	21·00	38,754
2. Caithness	13,778	410	29·75	21,332
3. Sutherland	16,514	479	29·00	18,998
4. Ross and Cromarty	40,114	1,554	38·73	55,436
5. Inverness	27,107	918	33·86	32,701
6. Nairn	7,606	346	45·49	8,947
7. Elgin	13,839	452	32·66	16,237
8. Banff	33,831	734	21·69	41,836
	180,357	5,472	30·33	234,291
				SOUTHERN
1. Aberdeen	99,415	689	6·93	154,196
2. Argyll	45,921	877	19·09	59,461
3. Bute	9,836	122	12·40	12,511
4. Dumbarton	9,897	152	15·35	16,748
5. Forfar	81,065	1,085	13·38	126,151
6. Kincardine	22,829	424	18·57	28,155
7. Perth	83,171	1,005	12·08	94,497
	352,134	4,354	12·36	491,719
				SOUTH-WESTERN
1. Lanark	106,269	2,174	20·45	256,495
2. Renfrew	41,009	668	16·28	92,700
3. Ayr	43,554	587	13·47	98,749
4. Dumfries	43,644	826	18·92	61,050
5. Kirkcudbright	22,029	284	12·89	34,074
6. Wigtown	12,811	188	14·67	22,041
	269,316	4,727	17·55	565,109
				SOUTH-EASTERN
1. Berwick	20,259	377	18·60	22,243
2. Clackmannan	8,749	169	19·31	13,562
3. Edinburgh	65,340	1,098	16·80	108,886
4. Fife	70,269	1,031	14·67	105,787
5. Haddington	16,715	388	23·21	22,010
6. Linlithgow	14,435	290	20·09	19,933
7. Peebles	2,601	52	19·99	3,440
8. Roxburgh	27,578	794	28·79	36,999
9. Selkirk	4,029	146	36·23	5,364
10. Stirling	39,882	585	14·66	59,803
11. Kinross	1,758	15	8·53	2,235
	271,615	4,945	18·20	400,262

by Counties and in Four Districts, 1791-98, 1835-37, *and* 1842.

HIGHLAND DISTRICT.

6 Average Number of Permanent Paupers in those Parishes, 1835-37.	7 Ratio per 1,000 of Permanent Paupers to Population, 1835-37.	8 Population of the same Parishes, 1841.	9 Total Permanent Paupers in those Parishes, 1842.	10 Ratio per 1,000 of Permanent Paupers to Population, 1842.	District.
910	23·48	40,400	942	23·31	1. Orkney and Shetland
486	22·78	22,682	489	21·55	2. Caithness
784	41·26	17,888	861	48·13	3. Sutherland
2,234	40·29	58,129	2,189	37·65	4. Ross and Cromarty
1,160	35·47	33,239	858	25·81	5. Inverness
358	39·79	8,870	167	18·82	6. Nairn
679	41·81	16,816	660	39·24	7. Elgin
1,109	26·50	42,956	1,225	28·51	8. Banff
7,720	32·95	240,980	7,391	30·67	

HIGHLAND DISTRICT.

4,514	29·27	169,084	5,064	29·94	1. Aberdeen
1,378	23·17	59,408	1,221	20·55	2. Argyll
353	28·21	13,388	379	28·30	3. Bute
322	19·22	20,956	441	21·04	4. Dumbarton
3,848	30·50	155,668	3,371	21·65	5. Forfar
784	27·84	29,751	777	26·11	6. Kincardine
1,903	20·13	91,217	1,592	17·45	7. Perth
13,102	26·64	539,472	12,845	23·81	

DISTRICT.

5,412	21·09	338,530	6,660	19·67	1. Lanark
2,052	22·13	102,053	2,735	26·79	2. Renfrew
1,777	17·99	112,343	1,914	17·03	3. Ayr
1,652	27·05	60,022	2,117	35·27	4. Dumfries
1,098	32·22	34,312	991	28·88	5. Kirkcudbright
471	21·36	24,105	602	24·97	6. Wigtown
12,462	22·05	671,365	15,019	22·37	

DISTRICT.

692	31·11	22,291	694	31·13	1. Berwick
419	30·89	17,841	362	20·29	2. Clackmannan
4,775	43·85	111,756	3,317	29·68	3. Edinburgh
2,139	20·21	139,729	1,969	14·09	4. Fife
660	29·98	21,952	664	30·24	5. Haddington
574	28·79	22,342	597	26·72	6. Linlithgow
72	20·93	3,382	75	22·17	7. Peebles
1,036	28·00	39,286	1,099	27·97	8. Roxburgh
109	20·32	6,026	135	22·40	9. Selkirk
1,057	17·67	67,154	1,067	15·88	10. Stirling
21	9·39	2,297	24	10·44	11. Kinross
11,554	28·86	454,056	10.003	22·03	

TABLE B *Contd.*—SCOTLAND: 613 *Parishes.*

TOTALS OF THE

1 District.	2 Population of Parishes Reported in Sinclair's Account, with Statistics as to Pauperism, 1791-98.	3 Enrolled Paupers in those Parishes, 1791-98.	4 Ratio per 1,000 of Enrolled Paupers to Population.	5 Population of the same Parishes, 1831.
Northern Highland	180,357	5,472	30·33	234,291
Southern ,,	352,134	4,354	12·36	491,719
South-western	269,316	4,727	17·55	565,109
,, eastern	271,615	4,945	18·20	400,262
	1,073,422	19,498	18·16	1,691,381
				ALL
1. Dumfries	43,644	826	18·92	61,050
2. Kirkcudbright	22,029	284	12·89	34,074
3. Wigtown	12,811	188	14·67	22,041
4. Ayr	43,554	587	13·47	98,749
5. Bute	9,836	122	12·40	12,511
6. Renfrew	41,009	668	16·28	92,700
7. Dumbarton	9,897	152	15·35	16,748
8. Lanark	106,269	2,174	20·45	256,495
9. Stirling	39,882	585	14·66	59,803
10. Linlithgow	14,435	290	20·09	19,933
11. Edinburgh	65,340	1,098	16·80	108,886
12. Peebles	2,601	52	19·99	3,440
13. Selkirk	4,029	146	36·23	5,364
14. Roxburgh	27,578	794	28·79	36,999
15. Berwick	20,259	377	18·60	22,243
16. Haddington	16,715	388	23·21	22,010
17. Fife	70,269	1,031	14·67	105,787
18. Kinross	1,758	15	8·53	2,235
19. Clackmannan	8,749	169	19·31	13,562
20. Perth	83,171	1,005	12·08	94,497
21. Forfar	81,065	1,085	13·38	126,151
22. Kincardine	22,829	424	18·57	28,155
23. Aberdeen	99,415	689*	6·93	154,196
24. Banff	33,831	734	21·69	41,836
25. Elgin	13,839	452	32·66	16,237
26. Nairn	7,606	346	45·49	8,997
27. Inverness	27,107	918	33·86	32,701
28. Argyll	45,921	877	19·09	59,461
29. Ross and Cromarty	40,114	1,554	38·73	55,436
30. Sutherland	16,514	479	29·00	18,998
31. Caithness	13,778	410	29·75	21,332
32. Orkney and Shetland	27,568	579	21·00	38,754
	1,073,422	19,498	18·16	1,691,381

* In 1791, *town* paupers not given in

Population and Enrolled Pauperism, &c.

FOUR DISTRICTS.

6 Average Number of Permanent Paupers in those Parishes, 1835-37.	7 Ratio per 1,000 of Average Permanent Paupers to Population.	8 Population of the same Parishes, 1841.	9 Total Permanent Paupers in those Parishes, 1842.	10 Ratio per 1,000 of Permanent Paupers to Population.	District.
7,720	32·95	240,980	7,391	30·67	Northern Highland
13,102	26·64	539,472	12,845	23·81	Southern ,,
12,462	22·05	671,365	15,019	22·37	South-western
11,554	28·86	454,056	10,003	22·03	,, eastern
44,838	26·50	1,905,873	45,258	23·74	

SCOTLAND.

1,652	27·05	60,022	2,117	35·27	1. Dumfries
1,098	32·22	34,312	991	28·88	2. Kircudbright
471	21·36	24,105	602	24·97	3. Wigtown
1,777	17·99	112,343	1,914	17·03	4. Ayr
353	28·21	13,388	379	28·30	5. Bute
2,052	22·13	102,053	2,735	26·79	6. Renfrew
322	19·22	20.956	441	21·04	7. Dumbarton
5,412	21·09	338,530	6,660	19·67	8. Lanark
1,057	17·67	67,154	1,067	15·88	9. Stirling
574	28·79	22,342	597	26·72	10. Linlithgow
4,775	43·85	111,756	3,317	29·68	11. Edinburgh
72	20·93	3,382	75	22·17	12. Peebles
109	20·32	6,026	135	22·40	13. Selkirk
1,036	28·00	39,286	1,099	27·97	14. Roxburgh
692	31·11	22,291	694	31·13	15. Berwick
660	29·98	21,952	664	30·24	16. Haddington
2,139	20·21	139,729	1,969	14·09	17. Fife
21	9·39	2,297	24	10·44	18. Kinross
419	30·89	17,841	362	20·29	19. Clackmannan
1,903	20·13	91,217	1,592	17·45	20. Perth
3,848	30·50	155,668	3,371	21·65	21. Forfar
784	27·84	29,751	777	26·11	22. Kincardine
4,514	29·27	169,084	5,064	29·94	23. Aberdeen
1,109	26·50	42,956	1,225	28·51	24. Banff
679	41·81	16,816	660	39·24	25. Elgin
358	39·79	8,870	167	18·82	26. Nairn
1,160	35·47	33,239	858	25·81	27. Inverness
1,378	23·17	59,408	1,221	20·55	28. Argyll
2,234	40·29	58,129	2,189	37·65	29. Ross and Cromarty
784	41·26	17,888	861	48·13	30. Sutherland
486	22·78	22,682	489	21·55	31. Caithness
910	23·48	40,400	942	23·31	32. Orkney and Shetland
44,838	26·50	1,905,873	45,258	23·74	

Peterhead, only those in *country* part.

TABLE C.—*Population and Enrolled and Occasional Poor in*

1 County.	2 Population of Parishes with Statistics as to Pauperism, 1831.	3 Total Paupers in those Parishes, 1835-37.	4 Ratio per 1,000 of Total Paupers to Population.	5 Population of same Parishes, 1841.	6 Total Paupers in those Parishes, 1842.
I. NORTHERN HIGHLAND					
1. Orkney and Shetland	58,239	1,624	27·88	61,065	1,458
2. Caithness	32,661	1,056	32·33	34,599	1,043
3. Sutherland	27,386	1,343	49·07	26,526	1,271
4. Ross and Cromarty	62,708	2,652	42·29	65,622	2,594
5. Inverness	57,260	1,930	33·70	57,158	1,603
6. Nairn	8,997	388	43·12	8,870	280
7. Elgin	30,803	1,470	47·72	31,613	1,434
8. Banff	50,794	1,810	35·63	51,934	1,814
	328,848	12,273	37·32	337,387	11,497
In Inverness-shire relief to a large extent is given in kind In Nairnshire, Croy returns not very complete, one-third					
II. SOUTHERN HIGHLAND					
1. Aberdeen	176,206	6,433	36·50	191,056	6,939
2. Argyll	97,805	2,575	26·32	95,011	1,991
3. Bute	14,151	440	31·09	15,740	484
4. Dumbarton	32,594	752	23·07	42,288	1,254
5. Forfar	139,603	6,576	47·10	170,395	6,797
6. Kincardine	32,683	1,262	38·61	34,361	1,270
7. Perth	137,027	3,966	28·94	132,741	3,575
	630,069	22,004	34·92	681,592	22,310
In Aberdeenshire relief is given in kind as well as in money.					
III. SOUTH-WESTERN					
1. Lanark	317,329	9,003	28·37	427,738	9,400
2. Renfrew	130,724	5,118	39·15	150,740	5,789
3. Ayr	145,176	4,574	31·50	164,477	4,266
4. Dumfries	73,770	3,108	42·13	72,854	4,746
5. Kirkcudbright	40,590	1,566	38·58	41,119	1,523
6. Wigtown	36,258	1,033	28·49	39,195	1,155
	743,847	24,402	32·80	896,123	26,879

857 *Parishes, arranged in Counties and Districts*, 1835-37 *and* 1842.

DISTRICT

7 Ratio per 1,000 of Total Paupers to Population.	8 Parishes without data as to Pauperism, and therefore omitted.	9 Population of these Parishes, 1831.	10 Population, 1841.	11 Parishes in which no Statistics as to Pauperism having been given in 1842, the Figures given in 1834-36 have been repeated.
23·87		—	—	
30·14		—	—	
47·91		—	—	Assint
	Gairloch	4,445	4,880	
	Lochbroom	4,615	4,799	
39·52	Killearnan	1,479	1,643	Resolis
	Urquhart and Logie	2,864	2,997	
	Wester	—	—	
	Inverness	14,324	15,418	
	Kiltarlity	2,715	2,869	
	Portree	3,441	3,574	
28·04	Harris	3,900	4,424	Strath, Bracadale
	North Uist	4,603	4,428	
	South ,,	6,890	7,333	
	Barray	2,097	2,353	
31·56		—	—	
45·36		—	—	
34·92		—	—	
34·07		51,373	54,728	

and not in money.
of parish not being under management of kirk session.

DISTRICT.

36·31		—	—	
20·95	Saddel and Skipness	2,152	1,813	Kilninver, Morven
	Small Isles	1,005	993	
30·74		—	—	
29·65	Row	2,032	3,717	
39·88		—	—	Dundee
36·96		—	—	Dunnottar
	Dunblane	3,228	3,361	
26·93	Dunkeld	1,471	1,096	Dron, Port of Monteith, Perth
	Dowally	566	656	
32·73		10,454	11,636	

In Argyllshire relief is given in kind as well as in money.

DISTRICT.

21·97		—	—	
38·40	Innerkip	2,088	3,420	Mearns
25·93		—	—	Kirkoswald, West Kilbride
65·14		—	—	Moffat, Ruthwell
37·04		—	—	Parton
29·46		—	—	
29·99		2,088	3,420	

TABLE C *Contd.*—*Population and Enrolled and Occasional Poor*

IV. SOUTH-EASTERN

1 County.	2 Population of Parishes with Statistics as to Pauperism, 1831.	3 Total Paupers in those Parishes, 1835-37.	4 Ratio per 1,000 of Total Paupers to Population.	5 Population of same Parishes, 1841.	6 Total Paupers in those Parishes, 1842.
1. Berwick	33,522	1,552	46·29	33,960	1,397
2. Clackmannan	13,562	554	40·84	17,841	619
3. Edinburgh	219,324	8,480	38·66	225,276	8,823
4. Fife	128,470	3,722	28·97	139,729	4,030
5. Haddington	36,116	1,282	35·49	35,835	1,337
6. Kinross	8,157	178	21·82	7,834	141
7. Linlithgow	23,760	979	41·20	27,466	851
8. Peebles	8,952	312	34·85	8,840	235
9. Roxburgh	42,016	2,224	52·93	44,190	1,700
10. Selkirk	6,898	205	29·71	8,166	229
11. Stirling	73,617	1,844	25·04	82,735	1,624
	594,394	21,332	35·88	631,872	21,016

V. TOTALS OF THE

1 Name of District.	2 Population of District, 1831.	3 Total Paupers in District, 1835-37.	4 Ratio per 1,000 of Total Paupers to Population.	5 Population of District, 1841.	6 Total Paupers in District, 1842.
Northern highland	328,848	12,273	37·32	337,387	11,497
Southern ,,	630,069	22,004	34·92	681,592	22,310
South-western	743,847	24,402	32·80	896,123	26,879
,, eastern	594,394	21,332	35·88	631,872	21,016
	2,297,158	80,011	34·83	2,546,974	81,702

Notes.—This table does not include the population of those parishes which give no return in Inverness-shire, two in Argyllshire, three in Perthshire, one in Renfrew, one in Dumbarton, 67,230 in 1831, 73,211 in 1841.

There are further anomalies as follows:—

Parishes in which dependents are not included, 1841:—

Dumfries—Tundergarth, Annan, Mouswald.
Ayr—Beith, Largs.
Renfrew—Cathcart.
Dumbarton—Old Kilpatrick.
Stirling—St. Ninians.
Roxburgh—Lilliesleaf, Linton.
Berwick—Hutton.
Haddington—Haddington.
Fife—Newburn, Kinglassie.
Clackmannan—Clackmannan.
Perth—Cargill.
Forfar—Edzell.
Aberdeen—Leochel, Rayne, Ellon, New Deer.

In regard to the enumeration made in above tables, total paupers in district, 1835-37, entered in brackets and not in the totals of the return have here been entered; (*b*) so in from a note in the return, 2,260 relieved in connection with the town hospital; of these in the totals of the return, have here been included.

in 857 *Parishes, arranged in Counties and Districts*, 1834-36 *and* 1842.

DISTRICT.

7 Ratio per 1,000 of Total Paupers to Population.	8 Parishes without data as to Pauperism, and therefore omitted.	9 Population of these Parishes, 1831.	10 Population, 1841.	11 Parishes in which no Statistics as to Pauperism having been given in 1842, the Figures given in 1834-36 have been repeated.
41·13		—	—	
34·69		—	—	
39·16		—	—	Cranstoun, North Leith, South Leith
28·84		—	—	Kilrenny, Kemback, Ceres
37·30		—	—	Athelstaneford
17·99		—	—	Kinross
30·98		—	—	
29·95	Newlands	1,078	1,063	
	Kilbuchs	358	361	
	Glenholm	259	294	
38·47	Cavers	1,625	1,709	Morebattle
28·04		—	—	Galashiels
19·62		—	—	Leeropt
33·25		3,315	3,427	

FOUR DISTRICTS.

7 Ratio per 1,000 of Total Paupers to Population.	8 Population of Excluded Parishes.		9 Total Population of Scotland.		1 Name of District.
	1831.	1841.	1831.	1841.	
34·07	51,373	54,728	—	—	Northern highland
32·73	10,454	11,636	—	—	Southern ,,
29·99	2,088	3,420	—	—	South-western
33·25	3,315	3,427	—	—	,, eastern
32·07	67,230	73,211	2,364,388	2,620,185	

of paupers for 1834-36 and 1842. The excluded parishes are: four in Ross and Cromarty, seven one in Roxburgh, and three in Peebles. Population of these twenty-two excluded parishes:

Parishes in which occasional poor are not included, 1841:—

Kirkcudbright—Carsephairn.
Wigtown—Stranraer.
Ayr—Monktown, Riccartoun.
Renfrew—Inchinnan.
Lanark—Lanark, Gorbals, Symington, Cadder.
Roxburgh—Ednam.
Berwick—Cockburnspath.
Fife—Elie, Strathmiglo, Leslie, Abbots Hall.
Perth—Monzie, Auchterarder.
Forfar—Newtyle, St. Vigeans, Lochlee.
Aberdeen—Fraserburgh.

Col. 4, the following points may also be mentioned: (*a*) Troquire (Kirkcudbright), 221 paupers Lanark (Lanarkshire), 151; (*c*) to the figures of kirk session cases at Glasgow have been added 2,165 are permanent; (*d*) at Dunfermline (Fife) 114 paupers relieved extra, not included

TABLE D.—SCOTLAND *in* FOUR DISTRICTS *and in* COUNTIES.

Recorded Pauperism; Counts for the Years ending 14*th May*, 1851, 1861; *and Counts for the Days* 14*th May*, 1871, 1881, *and* 1891.

Northern Highland District.

1 County.	2 Population, 1851.	3 Recorded Number of Paupers during Year ending 14th May, 1851.	4 Ratio per 1,000 to Total Population.	5 Population, 1861.	6 Recorded Number of Paupers during Year ending 14th May, 1861.	7 Ratio per 1,000 to Total Population.	8 Population, 1871.	9 Recorded Number of Paupers on same Day, 14th May, 1871.	10 Ratio per 1,000 to Total Population.
1. Orkney and Shetland	62,533	2,027	32·41	64,065	2,103	32·82	62,882	2,503	39·80
2. Caithness	39,782	2,084	52·38	42,200	2,019	47·84	41,011	2,142	52·22
3. Sutherland	24,720	1,185	47·93	24,157	1,097	45·41	23,298	1,018	43·69
4. Ross and Cromarty	83,781	4,103	48·97	82,427	4,096	49·69	82,093	4,461	54·34
5. Inverness	97,189	6,031	62·05	89,174	4,261	47·78	88,324	4,374	49·52
6. Nairn	8,076	325	40·24	8,347	379	45·40	8,372	367	43·83
7. Elgin	39,494	1,661	42·05	43,131	1,900	44·05	43,516	2,053	47·17
8. Banff	53,141	2,139	40·25	57,901	2,212	38·20	60,691	3,268	53·84
	408,716	19,555	47·84	411,402	18,067	43·91	410,187	20,186	49·21
	Southern Highland District.								
1. Aberdeen	212,711	7,268	34·16	222,550	9,257	41·59	245,523	10,293	41·92
2. Argyll	88,807	4,428	49·86	79,587	4,677	58·76	75,595	3,935	52·05
3. Bute	16,608	504	30·34	16,331	626	38·33	16,966	727	42·85
4. Dumbarton	46,995	1,634	34·76	54,179	1,972	36·39	61,116	2,263	37·02
5. Forfar	191,247	6,135	32·07	204,425	6,963	34·06	237,145	7,464	31·47
6. Kincardine	34,944	1,514	43·32	34,854	1,475	42·31	35,097	1,524	43·42
7. Perth	138,377	5,215	37·68	133,086	6,053	45·48	127,827	5,086	39·78
	729,689	26,698	36·58	745,012	31,023	41·64	799,269	31,292	39·15

TABLE D *Contd.—South-Western District.* 1851, 1861, 1871.

1 County.	2 Population, 1851.	3 Recorded Number of Paupers during Year ending 14th May, 1851.	4 Ratio per 1,000 to Total Population.	5 Population, 1861.	6 Recorded Number of Paupers during Year ending 14th May, 1861.	7 Ratio per 1,000 to Total Population.	8 Population, 1871.	9 Recorded Number of Paupers on same Day, 14th May, 1871.	10 Ratio per 1,000 to Total Population.
1. Lanark	533,169	33,711	63·22	640,444	28,308	44·20	787,005	26,672	33·89
2. Renfrew	157,950	8,765	55·49	168,746	8,512	50·44	195,305	6,555	33·56
3. Ayr	189,973	10,207	53·72	199,063	11,299	56·76	200,908	8,901	44·30
4. Dumfries	78,149	3,767	48·20	75,904	4,709	62·03	74,842	3,228	43·13
5. Kirkcudbright	43,121	2,728	63·26	42,495	2,808	66·07	41,859	2,133	50·95
6. Wigtown	43,389	2,495	57·50	42,095	2,754	65·42	38,830	2,559	65·90
	1,045,751	61,673	58·97	1,168,747	58,390	49·95	1,338,749	50,048	37·38
	South-Eastern District.								
1. Berwick	36,165	1,609	44·49	36,488	1,934	53·00	36,382	1,763	48·45
2. Clackmannan	24,106	991	41·11	23,605	808	34·23	26,788	779	29·08
3. Edinburgh	259,493	15,342	59·12	274,083	13,381	48·82	328,472	10,693	32·55
4. Fife	153,789	4,980	32·38	155,021	5,809	37·47	160,924	5,406	33·59
5. Haddington	36,363	2,076	57·09	37,626	1,736	46·13	37,755	1,734	45·92
6. Kinross	8,005	229	28·60	7,147	218	30·50	6,457	229	35·46
7. Linlithgow	30,590	1,640	53·61	39,055	1,578	40·40	41,394	1,453	35·10
8. Peebles	10,804	387	35·82	11,300	456	40·35	12,254	428	34·92
9. Roxburgh	51,895	2,766	53·29	54,362	2,704	49·74	54,151	1,634	30·17
10. Selkirk	9,132	844	92·42	9,770	521	53·32	13,356	250	18·71
11. Stirling	84,244	3,080	36·56	88,676	3,563	40·1-	93,880	3,362	35·81
	704,586	33,944	48·17	737,133	32,708	44·3-	811,813	27,731	34·15

TABLE D *Contd.—Northern Highland District.*

1 County.	2 Population, 1881.	3 Recorded Number of Paupers on same Day, 14th May, 1881.	4 Ratio per 1,000 to Total Population.	5 Population, 1891.	6 Recorded Number of Paupers on same Day, 14th May, 1891.	7 Ratio per 1,000 to Total Population.
1. Orkney and Shetland	61,749	2,323	37·62	59,164	2,033	34·36
2. Caithness	39,859	1,824	45·76	37,177	1,718	46·21
3. Sutherland	22,376	956	42·72	21,896	922	42·10
4. Ross and Cromarty	79,467	3,973	49 99	78,727	3,616	45·93
5. Inverness	90,546	3,683	40·67	90,121	3,663	40·64
6. Nairn	8,847	354	40·01	9,155	297	32·44
7. Elgin	44,260	1,491	33·68	43,471	1,633	37·56
8. Banff	61,313	2,107	34·36	61,684	1,901	30·81
	403,417	26,711	40·91	401,395	15,783	39·32
	Southern Highland District.					
1. Aberdeen	268,365	7,414	27·62	284,036	6,716	23·64
2. Argyll	76,604	2,686	35·06	74,085	2,491	33·62
3. Bute	17,634	460	26·08	18,404	338	18·36
4. Dumbarton	78,182	1,530	19 56	98,014	1,637	16·70
5. Forfar	266,020	5,225	19·64	277,735	5,344	19·24
6. Kincardine	35,465	949	26·75	35,492	662	18·65
7. Perth	128,884	3,710	28·78	122,185	3,029	24·79
	871,154	21,974	25·22	909,951	20,217	22·21
	South-Western District.					
1. Lanark	942,206	25,414	26·97	1,105,899	21,957	19·85
2. Renfrew	225,611	5,374	23·81	230,812	4,717	20·43
3. Ayr	217,630	6,225	28·60	226,386	5,285	23·34
4. Dumfries	76,167	2,142	28·12	74,245	1,815	24·44
5. Kirkcudbright	42,127	1,293	30·69	39,985	1,096	27·41
6. Wigtown	38,611	1,496	38·74	36,062	1,146	31·77
	1,542,352	41,944	27·19	1,713,389	36,016	21·02
	South-Eastern District.					
1. Berwick	35,273	952	26·98	32,290	772	23·90
2. Clackmannan	28,721	503	17·51	33,140	414	12·49
3. Edinburgh	389,204	9,099	23·37	434,276	8,280	19·06
4. Fife	172,131	4,345	25·24	190,365	3,560	18·70
5. Haddington	38,510	1,117	29·00	37,377	981	26·24
6. Kinross	6,063	155	25·56	6,673	142	21·27
7. Linlithgow	44,022	1,091	24·78	52,808	1,016	19·23
8. Peebles	13,713	234	17·06	14,750	230	15·59
9. Roxburgh	59,771	1,218	20·37	53,500	1,021	19·08
10. Selkirk	18,757	315	16·79	27,712	254	9·16
11. Stirling	107,485	2,648	24·63	118,021	2,377	20·14
	913,650	21,677	23·72	1,000,912	19,047	19·02

TABLE D *Contd.—Totals of the Four Districts*, 1851, 1861, 1871, 1881, 1891.

Name of District.	Population of District.	Total Recorded Number of Paupers in District during Year ending 14th May.	Ratio per 1,000 of Total Paupers to Population.
1851.			
Northern Highland	408,716	19,555	47·84
Southern ,,	729,689	26,698	36·58
South-Western	1,045,751	61,673	58·97
,, Eastern	704,586	33,944	48·17
	2,888,742	141,870	49·11
1861.			
Northern Highland	411,402	18,067	43·91
Southern ,,	745,012	31,023	41·64
South-Western	1,168,747	58,390	49·95
,, Eastern	737,133	32,708	44·37
	3,062,294	140,188	45·77

Name of District.	Population of District.	Total Recorded Number of Paupers Relieved same Day, 14th May.	Ratio per 1,000 of Total Paupers to Population.
1871.			
Northern Highland	410,187	20,186	49·21
Southern ,,	799,269	31,292	39·15
South-Western	1,338,749	50,048	37·38
,, Eastern	811,813	27,731	34·15
	3,360,018	129,257	38·46
1881.			
Northern Highland	408,417	16,711	40·91
Southern ,,	871,154	21,974	25·22
South-Western	1,542,352	41,944	27·19
,, Eastern	913,650	21,677	23·72
	3,735,573	102,306	27·38
1891.			
Northern Highland	401,395	15,783	39·32
Southern ,,	909,951	20,217	22·21
South-Western	1,713,389	36,016	21·06
,, Eastern	1,000,912	19,047	19·02
	4,025,647	91,063	22·62

TABLE E.—1834-91. *Nine Large Towns (Combinations).*

Recorded Pauperism; Counts for 1835-37, *for* 1842, *for the Years ending* 14*th May*, 1851, 1861, 1871, *and* 1881; *also for the Days* 14*th May*, 1881 *and* 1891.

1 Name of Town.	2 Population, 1791-98.	3 Number of Paupers Relieved, 1791-98.	4 Ratio per 1,000 of Paupers to Population.	5 Population, 1831.	6 Average Number of Paupers Relieved, 1834-36.	7 Ratio per 1,000 of Average Paupers to Population.	8 Population, 1841.	9 Total Paupers Relieved during Year 1842.	10 Ratio per 1,000 of Paupers to Population.
Glasgow, Barony, Govan combination } Glasgow	67,467	—	—	208,103	5,394	25·91	282,343	6,223	22·04
Edinburgh, St. Cuthbert's comb. } Edinburgh	71,045	—	—	136,054	5,012	36·83	138,182	5,464	39·54
Aberdeen, Old Machar } Aberdeen	24,227	—	—	58,019	2,246	38·71	64,778	2,996	46·25
Paisley, Abbey } Paisley	24,592	—	—	57,466	1,893	32·94	60,487	1,693	27·98
North Leith, South „ } Leith	13,841	—	—	25,855	1,457	56·35	28,268	1,457	51·54
Kilmarnock, Riccartoun } Kilmarnock	8,106	—	—	20,592	928	45·06	23,182	563*	24·28
Perth, Kinnoull } Perth	21,336	—	—	22,973	978	42·57	22,172	941	42·44
Dundee, Liff and Benvie } Dundee	25,290	—	—	49,602	3,589	72·35	66,742	3,643	54·58
Greenock	15,000	—	—	27,571	1,915	69·45	36,936	2,487	67·33

* Occasionals not given in Riccartoun, 1841.

TABLE E.—1834-91 *Contd.*—*Nine Large Towns (Combinations).*

1 Name of Town.	2 Population, 1851.	3 Number of Paupers Relieved during Year ending 14th May, 1851.	4 Ratio per 1,000 of Paupers to Population.	5 Population, 1861.	6 Number of Paupers Relieved during Year ending 14th May, 1861.	7 Ratio per 1,000 of Paupers to Population.	8 Population, 1871.	9 Number of Paupers Relieved during Year ending 14th May, 1871.	10 Ratio per 1,000 of Paupers to Population.
Glasgow, Barony, Govan combination — Glasgow	360,144	28,596*	79·40	446,646	32,594	72·97	566,232	37,995	67·10
Edinburgh, St. Cuthbert's comb. — Edinburgh	160,511	11,094	69·11	169,407	14,007	82·68	202,617	16,767	82·75
Aberdeen, Old Machar — Aberdeen	73,222	2,587	35·33	75,198	6,585	87·56	89,554	6,355	70·96
Paisley, Abbey — Paisley	60,301	3,106	51·50	61,225	5,360	87·54	62,496	5,267	84·27
North Leith, South „ — Leith	33,418	1,535	45·93	37,073	2,315	62·44	44,907	3,276	72·95
Kilmarnock, Riccartoun — Kilmarnock	25,870	1,409	54·46	29,185	3,345	114·61	29,917	2,008	67·11
Perth, Kinnoull — Perth	25,366	1,349	53·18	26,730	2,187	88·81	26,615	2,065	77·58
Dundee, Liff and Benvie — Dundee	81,494	2,696	33·08	93,094	5,120	54·99	122,081	8,620	70·60
Greenock	37,436	2,216	59·19	43,894	2,993	68·18	59,794	3,479	58·18

* In 1851, dependents not included.

TABLE E.—1834-91 *Contd. Nine Large Towns (Combinations).*

Name of Town.	Population, 1881.	Number of Paupers Relieved during Year ending 14th May, 1881.	Ratio per 1,000 of Paupers to Population, 1881.	Number of Paupers Relieved at 14th May, 1881.	Ratio per 1,000 of Paupers to Population, 1881.	Population, 1891.	Number of Paupers Relieved at 14th May, 1891.	Ratio per 1,000 of Paupers to Population, 1891.
Glasgow, Barony, Govan combination } Glasgow	669,100	34,441	51·47	17,154	25·63	772,917	15,995	20·69
Edinburgh, St. Cuthbert's comb. } Edinburgh	233,755	12,968	55·47	5,439	23·26	254,034	4,899	19·28
Aberdeen, Old Machar } Aberdeen	106,527	5,846	54·87	2,551	23·94	123,327	2,432	19·71
Paisley, Abbey } Paisley	72,530	4,408	60·77	1,877	25·87	83,969	1,547	18·42
North Leith, South „ } Leith	63,515	2,823	44·44	1,329	20·92	78,621	1,337	17·00
Kilmarnock, Riccartoun } Kilmarnock	32,976	1,207	36·60	799	24·22	35,285	788	22·33
Perth, Kinnoull } Perth	29,697	1,663	55·99	937	31·55	30,474	630	20·67
Dundee, Liff and Benvie } Dundee	143,788	5,502	38·26	2,407	16·73	157,359	2,839	18·04
Greenock	69,238	3,072	44·36	1,086	15·68	66,247	989	14·92

Table F, First Part, 1847-51, 1852-61.

Scotland, *in three Divisions*—North, Midland, South—*and in Counties. The Average recorded Number of Paupers of all Classes, not including Dependents, Relieved during the Years ending* 14*th May*, 1847-51, *and the Years ending* 14*th May*, 1852-61; *and the Comparative Pauperism of the Counties in each Division, the Counties being arranged in order of Comparative Minimum Pauperism*, 1852-61.

1 Name of County.	2 Periods.	3 Ratio per 1,000 of the Average Recorded Number of Paupers to Population.	4 Ratio per 1,000 of the Recorded Number of Paupers to Population.	5 Comparative Pauperism.	6 Amount of Decrease or Increase. (Increase in *Italics*.)
North	1847-51	**43·09**	**43·17**	—	—
	'52-61	**42·21**	**43·06**	—	—
1. Inverness	1847-51	49·51	62·05	54·00	—
	'52-61	53·16	47·78	37·94	16·06
2. Sutherland	1847-51	44·45	47·93	46·46	—
	'52-61	48·80	45·41	39·27	7·19
3. Ross and Cromarty	1847-51	49·47	48·97	42·65	—
	'52-61	52·61	49·69	39·86	2·79
4. Kincardine	1847-51	44·15	43·32	42·27	—
	'52-61	41·17	42·31	43·37	*1·10*
5. Banff	1847-51	40·49	40·25	42·83	—
	'52-61	36·75	38·20	43·87	*1·04*
6. Orkney and Shetland	1847-51	31·67	32·41	44·09	—
	'52-61	31·48	32·82	44·00	0·09
7. Elgin	1847-51	44·48	42·05	40·73	—
	'52-61	41·59	44·05	44·70	*3·97*
8. Nairn	1847-51	39·74	40·24	43·63	—
	'52-61	42·29	45·40	45·31	*1·68*
9. Aberdeen	1847-51	39·66	34·16	37·11	—
	'52-61	37·83	41·59	46·40	*9·29*
10. Caithness	1847-51	51·22	52·38	44·06	—
	'52-61	43·27	47·84	46·67	*2·61*

TABLE F (First Part) *Contd.—Number of Paupers, not including Dependents, relieved.*

Name of County.	Periods.	Ratio per 1,000 of the Average Recorded Number of Paupers to Population.	Ratio per 1,000 of the Recorded Number of Paupers to Population.	Comparative Pauperism	Amount of Decrease or Increase. (Increase in *Italics.*)
MIDLAND	1847–51	**38·87**	**36·15**	—	—
	'52–61	**39·06**	**40·27**	—	—
1. Clackmannan	1847–51	38·41	41·11	41·60	—
	'52–61	36·77	34·23	36·36	5·24
2. Forfar	1847–51	33·86	32·07	32·07	—
	'52–61	34·61	34·06	38·43	*6·36*
3. Argyll	1847–51	45·69	49·86	42·41	—
	'52–61	59·31	58·76	38·69	3·72
4. Kinross	1847–51	33·72	28·60	32·97	—
	'52–61	29·94	30·50	39·79	*6·82*
5. Dumbarton	1847–51	35·79	34·76	37·75	—
	'52–61	34·79	36·39	40·85	*3·10*
6. Stirling	1847–51	38·51	36·56	36·90	—
	'52–61	37·76	40·17	41·55	*4·65*
7. Fife	1847–51	44·33	32·38	28·39	—
	'52–61	35·20	37·47	41·57	*13·18*
8. Perth	1847–51	38·15	37·68	38·39	—
	'52–61	42·17	45·48	42·12	*3·73*
9. Bute	1847–51	29·26	30·34	40·30	—
	'52–61	35·51	38·33	42·16	*1·86*

TABLE F (First Part) *Contd.—Number of Paupers, not including Dependents, relieved.*

1 Name of County.	2 Periods.	3 Ratio per 1,000 of the Average Recorded Number of Paupers to Population.	4 Ratio per 1,000 of the Recorded Number of Paupers to Population.	5 Comparative Pauperism.	6 Amount of Decrease or Increase. (Increase in *Italics.*)
SOUTH	1847–51	**79·02**	**58·33**	—	—
	'52–61	**50·57**	**49·46**	—	—
1. Ayr	1847–51	48·89	53·72	86·82	—
	'52–61	66·40	56·76	43·22	43·60
2. Renfrew	1847–51	66·28	55·49	66·15	—
	'52–61	56·94	50·44	44·79	21·36
3. Linlithgow	1847–51	55·11	53·61	76·86	—
	'52–61	41·40	40·40	49·34	27·52
4. Selkirk	1847–51	132·82	92·42	54·98	—
	'52–61	54·14	53·32	49·80	5·18
5. Lanark	1847–51	115·07	63·22	43·41	—
	'52–61	44·25	44·20	50·51	*7·10*
6. Edinburgh	1847–51	63·44	59·12	73·63	—
	'52–61	48·36	48·82	51·04	22·59
7. Haddington	1847–51	60·58	57·09	74·46	—
	'52–61	45·68	46·13	51·06	23·40
8. Dumfries	1847–51	44·82	48·20	84·97	—
	'52–61	60·40	62·03	51·93	33·04
9. Peebles	1847–51	35·63	35·82	79·44	—
	'52–61	37·69	40·35	54·14	25·30
10. Roxburgh	1847–51	64·84	53·29	64·94	—
	'52–61	46·26	49·74	54·37	10·57
11. Kirkcudbright	1847–51	63·65	63·26	78·53	—
	'52–61	59·70	66·07	55·96	22·57
12. Wigtown	1847–51	60·19	57·50	75·48	—
	'52–61	58·32	65·42	56·72	18·76
13. Berwick	1847–51	46·56	44·49	75·50	—
	'52-61	46·42	53·00	57·74	17·76

TABLE F, SECOND PART: 1862-71, 1872-81, 1882-91.

SCOTLAND, *in Three Divisions*—NORTH, MIDLAND, SOUTH—*and in Counties. The Average recorded Number of Paupers of all Classes, including Dependents, in Receipt of Relief on the same day, 14th May*, 1862-71, 1872-81, *and* 1882-91; *and the Comparative Pauperism of the Counties in each Division, the Counties being arranged in order of Comparative Minimum Pauperism*, 1882-91.

1 Name of County.	2 Periods.	3 Ratio per 1,000 of the Average Recorded Number of Paupers to Population.	4 Ratio per 1,000 of the Recorded Number of Paupers to Population.	5 Comparative Pauperism.	6 Amount of Decrease or Increase. (Increase in *Italics*.)
NORTH	1862-71	**45·05**	**46·32**	—	—
	'72-81	**37·93**	**35·20**	—	—
	'82-91	**33·33**	**32·12**	—	—
1. Nairn	1862-71	49·21	43·83	40·12	—
	'72-81	37·18	40·01	40·81	*0·69*
	'82-91	38·77	32·44	27·88	12·93
2. Kincardine	1862-71	46·98	43·42	41·63	—
	'72-81	32·42	26·75	31·29	10·34
	'82-91	20·82	18·65	29·85	1·44
3. Sutherland	1862-71	47·77	43·69	41·20	—
	'72-81	43·70	42·72	37·07	4·13
	'82-91	44·84	42·10	31·29	5·78
4. Ross and Cromarty	1862-71	51·00	54·34	48·00	—
	'72-81	52·48	49·99	36·13	11·87
	'82-91	48·76	45·93	31·39	4·74
5. Orkney and Shetland	1862-71	37·84	39·80	47·38	—
	'72-81	38·44	37·62	37·12	10·26
	'82-91	36·01	34·36	31·80	5·32
6. Aberdeen	1862-71	40·59	41·92	46·52	—
	'72-81	29·65	27·62	35·33	11·19
	'82-91	24·68	23·64	31·92	3·41
7. Inverness	1862-71	48·86	49·52	45·66	—
	'72-81	43·63	40·67	35·35	10·31
	'82-91	42·14	40·64	32·14	3·21
8. Banff	1862-71	50·08	53·84	48·43	—
	'72-81	39·94	34·36	32·63	15·80
	'82-91	31·58	30·81	32·51	0·12
9. Caithness	1862-71	51·25	52·22	45·90	—
	'72-81	50·57	45·76	34·32	11·58
	'82-91	45·96	46·21	33·50	0·82
10. Elgin	1862-71	44·97	47·17	47·25	—
	'72-81	37·09	33·68	34·44	12·81
	'82-91	34·87	37·56	35·90	*1·46*

TABLE F (Second Part) *Contd.—Number of Paupers, including Dependents, in Receipt of Relief.*

1 Name of County.	2 Periods.	3 Ratio per 1,000 of the Average Recorded Number of Paupers to Population.	4 Ratio per 1,000 of the Recorded Number of Paupers to Population.	5 Comparative Pauperism.	6 Amount of Decrease or Increase. (Increase in *Italics*.)
MIDLAND	1862–71	**37·51**	**36·26**	—	—
	'72–81	**25·73**	**24·11**	—	—
	'82–91	**21·47**	**20·59**	—	—
1. Bute	1862–71	44·38	42·85	36·21	—
	'72–81	29·43	26·08	22·80	13·41
	'82–91	21·35	18·36	18·46	4·34
2. Clackmannan	1862–71	31·39	29·08	34·75	—
	'72–81	19·42	17·51	23·20	11·55
	'82–91	14·27	12·49	18·79	4·41
3. Fife	1862–71	34·68	33·59	36·33	—
	'72–81	25·42	25·24	25·54	10·79
	'82–91	20·56	18·70	19·52	6·02
4. Perth	1862–71	40·78	39·78	36·59	—
	'72–81	30·60	28·78	24·20	12·39
	'82–91	27·11	24·79	19·63	4·57
5. Stirling	1862–71	36·50	35·81	36·80	—
	'72–81	25·57	24·63	24·78	12·02
	'82–91	21·36	20·14	20·24	4·54
6. Argyll	1862–71	60·91	52·05	32·05	—
	'72–81	39·88	35·06	22·62	9·43
	'82–91	34·43	33·62	20·96	1·66
7. Forfar	1862–71	31·25	31·47	37·77	—
	'72–81	20·99	19·64	24·07	13·70
	'82–91	19·07	19·24	21·66	2·41
8. Kinross	1862–71	35·77	35·46	37·18	—
	'72–81	29·52	25·56	22·28	14·90
	'82–91	20·53	21·27	22·24	0·04
9. Dumbarton	1862–71	35·98	37·02	38·59	—
	'72–81	22·06	19·56	22·81	15·78
	'82–91	15·86	16·70	22·60	0·21
SOUTH	1862–71	**36·75**	**36·51**	—	—
	'72–81	**26·62**	**26·13**	—	—
	'82–91	**21·71**	**20·53**	—	—
1. Selkirk	1862–71	17·44	18·71	39·42	—
	'72–81	13·54	16·79	33·01	6·41
	'82–91	10·28	9·16	19·34	13·67

TABLE F (Second Part) *Contd.—Number of Paupers, including Dependents, in Receipt of Relief.*

1 Name of County.	2 Periods.	3 Ratio per 1,000 of the Average Recorded Number of Paupers to Population.	4 Ratio per 1,000 of the Recorded Number of Paupers to Population.	5 Comparative Pauperism.	6 Amount of Decrease or Increase. (Increase in *Italics.*)
2. Kirkcudbright	1862–71	52·27	50·95	35·82	—
	'72–81	37·81	30·69	21·60	14·22
	'82–91	30·23	27·41	19·68	1·92
3. Berwick	1862–71	47·52	48·45	37·46	—
	'72–81	38·27	26·98	18·76	18·70
	'82–91	26·29	23·90	19·73	*0·97*
4. Ayr	1862–71	46·54	44·30	34·98	—
	'72–81	30·66	28·60	24·83	10·15
	'82–91	25·35	23·34	19·99	4·84
5. Wigtown	1862–71	69·22	65·90	34·98	—
	'72–81	43·69	38·74	23·60	11·38
	'82–91	34·13	31·77	20·20	3·40
6. Lanark	1862–71	32·06	33·89	38·84	—
	'72–81	25·52	26 97	28·13	10·71
	'82–91	21·04	19·85	20·48	7·65
7. Roxburgh	1862–71	31·76	30·17	34·91	—
	'72–81	21·54	20·37	25·17	9·74
	'82–91	20·14	19·08	20·56	4·61
8. Dumfries	1862–71	43·39	43·13	36·52	—
	'72–81	32·29	28·12	23·18	13·34
	'82–91	25·77	24·44	20·59	2·59
9. Renfrew	1862–71	35·63	33·56	34·61	—
	'72–81	25·09	23·81	25·26	9·35
	'82–91	21·44	20·43	20·68	4·58
10. Edinburgh	1862–71	34·94	32·55	34·23	—
	'72–81	23·53	23·37	26·44	7·79
	'82–91	19·98	19·06	20·71	5·73
11. Peebles	1862–71	31·58	34·92	40·63	—
	'72–81	23·40	17·06	19·41	21·22
	'82–91	15·38	15·59	22·00	*2·59*
12. Haddington	1862–71	45·21	45·92	37·32	—
	'72–81	34·92	29·00	22·10	15·22
	'82–91	25·81	26·24	22·07	0·03
13. Linlithgow	1862–71	37·01	35·10	34·85	—
	'72–81	26·75	24·78	24·66	10·19
	'82–91	18·53	19·23	22·53	2·13

Table G, First Part: 1847-51, 1852-61.

Scotland, *in Counties. The Average recorded Number of Paupers of all Classes, not including Dependents, Relieved during the Years ending 14th May*, 1847-51, *and the Years ending 14th May*, 1852-61; *and the Comparative Pauperism of the Counties in Scotland, the Counties being arranged according to their Comparative Minimum Pauperism*, 1852-61.

1 Name of County.	2 Periods.	3 Ratio per 1,000 of the Average Recorded Number of Paupers to Population.	4 Ratio per 1,000 of the Recorded Number of Paupers to Population.	5 Comparative Pauperism.	6 Amount of Decrease or Increase. (Increase in *Italics.*)
Scotland	1847–51	**60·40**	**49·11**	—	—
	'52–61	**45·87**	**45·77**	—	—
1. Ayr	1847–51	48·89	53·72	66·36	—
	'52–61	66·40	56·76	39·21	27·15
2. Renfrew	1847–51	66·28	55·49	50·56	—
	'52–61	56·94	50·44	40·63	9·93
3. Inverness	1847–51	49·51	62·05	75·69	—
	'52–61	53·16	47·78	41·22	34·47
4. Sutherland	1847–51	44·45	47·93	65·13	—
	'52–61	48·80	45·41	42·68	22·45
5. Clackmannan	1847–51	38·41	41·11	64·66	—
	'52–61	36·77	34·23	42·70	21·96
6. Ross and Cromarty	1847–51	49·47	48·97	59·79	—
	'52–61	52·61	49·69	43·32	16·47
7. Linlithgow	1847–51	55·11	53·61	58·75	—
	'52–61	41·40	40·40	44·76	13·99
8. Forfar	1847–51	33·86	32·07	57·20	—
	'52–61	34·61	34·06	45·14	12·06
9. Selkirk	1847–51	132·82	92·42	42·02	—
	'52–61	54·14	53·32	45·17	*3·15*
10. Argyll	1847–51	45·69	49·86	65·91	—
	'52–61	59·31	58·76	45·44	20·47
11. Lanark	1847–51	115·07	63·22	33·18	—
	'52–61	44·25	44·20	45·82	*12·64*
12. Edinburgh	1847–51	63·44	59·12	56·28	—
	'52–61	48·36	48·82	46·30	9·98
13. Haddington	1847–51	60·58	57·09	56·92	—
	'52–61	45·68	46·13	46·32	10·60
14. Kinross	1847–51	33·72	28·60	51·23	—
	'52–61	29·94	30·50	46·72	4·51
15. Dumfries	1847–51	44·82	48·20	64·95	—
	'52–61	60·40	62·03	47·10	17·85

TABLE G (First Part) *Contd.*—SCOTLAND, *in Counties. Average recorded Number of Paupers, and Comparative Pauperism in* 1847-51, 1852-61.

1 Name of County.	2 Periods.	3 Ratio per 1,000 of the Average Recorded Number of Paupers to Population.	4 Ratio per 1,000 of the Recorded Number of Paupers to Population.	5 Comparative Pauperism.	6 Amount of Decrease or Increase. (Increase in *Italics.*)
16. Kincardine	1847–51	44·15	43·32	59·26	—
	'52–61	41·17	42·31	47·14	12·12
17. Banff	1847–51	40·49	40·25	60·04	—
	'52–61	36·75	38·20	47·68	12·36
18. Orkney and Shetland	1847–51	31·67	32·41	61·81	—
	'52–61	31·48	32·82	47·82	13·99
19. Dumbarton	1847–51	35·79	34·76	58·66	—
	'52–61	34·79	36·39	47·97	10·69
20. Elgin	1847–51	44·48	42·05	57·10	—
	'52–61	41·59	44·05	48·58	8·52
21. Stirling	1847–51	38·51	36·56	57·34	—
	'52–61	37·76	40·17	48·79	8·55
22. Fife	1847–51	44·33	32·38	44·11	—
	'52–61	35·20	37·47	48·83	*4·72*
23. Peebles	1847–51	35·63	35·82	60·72	—
	'52–61	37·69	40·35	49·10	11·62
24. Nairn	1847–51	39·74	40·24	61·15	—
	'52–61	42·29	45·40	49·24	11·91
25. Roxburgh	1847–51	64·84	53·29	49·64	—
	'52–61	46·26	49·74	49·32	0·32
26. Perth	1847–51	38·15	37·68	59·65	—
	'52–61	42·17	45·48	49·47	10·18
27. Bute	1847–51	29·26	30·34	62·63	—
	'52–61	35·51	38·33	49·51	13·12
28. Aberdeen	1847–51	39·66	34·16	52·02	—
	'52–61	37·83	41·59	50·42	1·60
29. Caithness	1847–51	51·22	52·38	61·76	—
	'52–61	43·27	47·84	50·71	11·05
30. Kirkcudbright	1847–51	63·65	63·26	60·03	—
	'52–61	59·70	66·07	50·76	9·27
31. Wigtown	1847–51	60·19	57·50	57·69	—
	'52–61	58·32	65·42	51·45	6·24
32. Berwick	1847–51	46·56	44·49	57·71	—
	'52–61	46·42	53·00	52·37	5·34

Table G, Second Part: 1862-71, 1872-81, 1882-91.

Scotland, *in Counties. The Average recorded Number of Paupers of all Classes, including Dependents, in receipt of Relief on the same Day, 14th May*, 1862-71, 1872-81, 1882-91; *and the Comparative Pauperism of the Counties in Scotland, the Counties being arranged in order of Minimum Comparative Pauperism*, 1882-91.

1 Name of County.	2 Periods.	3 Ratio per 1,000 of the Average Recorded Number of Paupers to Population.	4 Ratio per 1,000 of the Recorded Number of Paupers to Population.	5 Comparative Pauperism.	6 Amount of Decrease or Increase. (Increase in *Italics*.)
Scotland	1862-71	**38·64**	**38·46**	—	—
	'72-81	**28·57**	**27·38**	—	—
	'82-91	**23·73**	**22·62**	—	—
1. Nairn	1862-71	49·21	43·83	34·41	—
	'72-81	37·18	40·01	30·74	3·67
	'82-91	38·77	32·44	19·85	10·89
2. Bute	1862-71	44·38	42·85	37·30	—
	'72-81	29·43	26·08	25·31	11·99
	'82-91	21·35	18·36	20·40	4·91
3. Clackmannan	1862-71	31·39	29·08	35·79	—
	'72-81	19·42	17·51	25·76	10·03
	'82-91	14·27	12·49	20·77	4·99
4. Selkirk	1862-71	17·44	18·71	41·45	—
	'72-81	13·54	16·79	35·42	6·03
	'82-91	10·28	9·16	21·14	14·28
5. Kincardine	1862-71	46·98	43·42	35·71	—
	'72-81	32·42	26·75	23·57	12·14
	'82-91	20·82	18·65	21·25	2·32
6. Kirkcudbright	1862-71	52·27	50·95	37·66	—
	'72-81	37·81	30·69	23·19	14·47
	'82-91	30·23	27·41	21·51	1·68
7. Berwick	1862-71	47·52	48·45	39·39	—
	'72-81	38·27	26·98	20·14	19·25
	'82-91	26·29	23·90	21·57	*1·43*
8. Fife	1862-71	34·68	33·59	37·42	—
	'72-81	25·42	25·24	28·37	9·05
	'82-91	20·56	18·70	21·58	6·79

TABLE G (Second Part) *Contd.*—SCOTLAND, *in Counties. Average recorded Number of Paupers, and Comparative Pauperism*, 1862-71, 1872-81, 1882-91.

1 Name of County.	2 Periods.	3 Ratio per 1,000 of the Average Recorded Number of Paupers to Population.	4 Ratio per 1,000 of the Recorded Number of Paupers to Population.	5 Comparative Pauperism.	6 Amount of Decrease or Increase. (Increase in *Italics*.)
9. Perth	1862-71	40·78	39·78	37·69	—
	'72-81	30·60	28·78	26·87	10·82
	'82-91	27·11	24·79	21·70	5·17
10. Ayr	1862-71	46·54	44·30	36·78	—
	'72-81	30·66	28·60	26·65	10·13
	'82-91	25·35	23·34	21·84	4·81
11 Wigtown	1862-71	69·22	65·90	36·78	—
	'72-81	43·69	38·74	25·33	11·45
	'82-91	34·13	31·77	22·08	3·25
12. Sutherland	1862-71	47·77	43·69	35·33	—
	'72-81	43·70	42·72	27·92	7·41
	'82-91	44·84	42·10	22·28	5·64
13. Ross and Cromarty	1862-71	51·00	54·34	41·17	—
	'72-81	52·48	49·99	27·21	13·96
	'82-91	48·76	45·92	22·35	4·86
14. Stirling	1862-71	36·50	35·81	37·91	—
	'72-81	25·57	24·63	27·52	10·39
	'82-91	21·36	20·14	22·37	5·15
15. Lanark	1862-71	32·06	33·89	40·84	—
	'72-81	25·52	26·97	30·19	10·65
	'82-91	21·04	19·85	22·38	7·81
16. Roxburgh	1862-71	31·76	30·17	36·70	—
	'72-81	21·54	20·37	27·01	9·69
	'82-91	20·14	19·08	22·48	4·53
17. Dumfries	1862-71	43·39	43·13	38·41	—
	'72-81	32·29	28·12	24·88	13·53
	'82-91	25·77	24·44	22·50	2·38
18. Renfrew	1862-71	35·63	33·56	36·39	—
	'72-81	25·09	23·81	27·11	9·28
	'82-91	21·44	20·43	22·61	4·50
19. Edinburgh	1862-71	34·94	32·55	35·99	—
	'72-81	23·53	23·37	28·37	7·62
	'82-91	19·98	19·06	22·63	5·74
20. Orkney and Shetland	1862-71	37·84	39·80	40·64	—
	'72-81	38·44	37·62	27·96	12·68
	'82-91	36·01	34·36	22·64	5·32

TABLE G (Second Part) *Contd.*—SCOTLAND, *in Counties. Average recorded Number of Paupers, and Comparative Pauperism*, 1862-71, 1872-81, 1882-91.

1 Name of County.	2 Periods.	3 Ratio per 1,000 of the Average Recorded Number of Paupers to Population.	4 Ratio per 1,000 of the Recorded Number of Paupers to Population.	5 Comparative Pauperism.	6 Amount of Decrease or Increase. (Increase in *Italics.*)
21. Aberdeen	1862–71	40·59	41·92	39·90	—
	'72–81	29·65	27·62	26·61	13·29
	'82–91	24·68	23·64	22·73	3·88
22. Inverness	1862–71	48·86	49·52	39·16	—
	'72–81	43·63	40·67	26·63	12·53
	'82–91	42·14	40·64	22·88	3·75
23. Banff	1862–71	50·08	53·84	41·54	—
	'72–81	39·94	34·36	24·58	16·96
	'82–91	31·58	30·81	23·15	1·43
24. Argyll	1862–71	60·91	52·05	33·01	—
	'72–81	39·88	35·06	25·11	7·90
	'82–91	34·43	33·62	23·17	1·94
25. Caithness	1862–71	51·25	52·22	39·37	—
	'72–81	50·57	45·76	25·85	13·52
	'82–91	45·96	46·21	23·86	1·99
26. Forfar	1862–71	31·25	31·47	38·91	—
	'72–81	20·99	19·64	26·73	12·18
	'82–91	19·07	19·24	23·94	2·79
27. Peebles	1862–71	31·58	34·92	42·72	—
	'72–81	23·40	17·06	20·83	21·89
	'82–91	15·38	15·59	24·05	*3·22*
28. Haddington	1862–71	45·21	45·92	39·24	—
	'72–81	34·92	29·00	23·72	15·52
	'82–91	25·81	26·24	24·12	*0·40*
29. Kinross	1862–71	35·77	35·46	38·30	—
	'72–81	29·52	25·56	24·73	13·57
	'82–91	20·53	21·27	24·58	0·15
30. Linlithgow	1862–71	37·01	35·10	36·64	—
	'72–81	26·75	24·78	26·46	10·18
	'82–91	18·53	19·23	24·62	1·84
31. Dumbarton	1862–71	35·98	37·02	39·75	—
	'72–81	22·06	19·56	25·33	14·42
	'82–91	15·86	16·70	24·98	0·35
32. Elgin	1862–71	44·97	47·17	40·53	—
	'72–81	37·09	33·68	25·94	14·59
	'82–91	34·87	37·56	25·56	0·38

TABLE H.—SCOTLAND, *in Counties. Aged Poor. Paupers and Dependents Relieved who were* 60 *Years of Age and upwards at* 14*th May,* 1892, *and Paupers and Dependents Relieved who were* 65 *Years of Age and upwards at* 14*th May,* 1893 *and* 1894.

1 Name of County.	2 Year.	3 Population, 60— 65— 65—	4 Number of Paupers and Dependents at 14th May who were 60 or 65 Years of Age and Upwards.	5 Ratio per 1,000 of Paupers to Population, 60— or 65—
SCOTLAND.....	1892	(60—) **316,646**	(60—) **26,277**	**82·98**
	'93	(65—) **203,096**	(65—) **22,072**	**108·67**
	'94	(65—) **203,096**	(65—) **22,563**	**111·09**
1. Aberdeen	1892	(60—) 25,991	(60—) 1,833	70·52
	'93	(65—) 17,309	(65—) 1,621	93·65
	'94	(65—) 17,309	(65—) 1,685	97·34
2. Argyll	1892	(60—) 8,774	(60—) 868	98·92
	'93	(65—) 6,016	(65—) 811	134·80
	'94	(65—) 6,016	(65—) 822	136·63
3. Ayr.....	1892	(60—) 17,536	(60—) 1,640	93·52
	'93	(65—) 11,520	(65—) 1,392	120·83
	'94	(65—) 11,520	(65—) 1,408	122·22
4. Banff	1892	(60—) 6,456	(60—) 603	93·40
	'93	(65—) 4,382	(65—) 525	119·80
	'94	(65—) 4,382	(65—) 523	119·35
5 Berwick	1892	(60—) 3,350	(60—) 242	72·23
	'93	(65—) 2,272	(65—) 196	86·26
	'94	(65—) 2,272	(65—) 210	92·42
6. Bute	1892	(60—) 2,162	(60—) 125	57·81
	'93	(65—) 1,473	(65—) 90	61·09
	'94	(65—) 1,473	(65—) 104	70·60
7. Caithness	1892	(60—) 4,971	(60—) 629	126·53
	'93	(65—) 3,437	(65—) 632	183·88
	'94	(65—) 3,437	(65—) 619	180·09
8. Clackmannan	1892	(60—) 2,331	(60—) 93	39·89
	'93	(65—) 1,493	(65—) 65	43·53
	'94	(65—) 1,493	(65—) 66	44·20
9. Dumbarton...	1892	(60—) 6,076	(60—) 404	66·49
	'93	(65—) 3,688	(65—) 331	89·75
	'94	(65—) 3,688	(65—) 337	91·37

TABLE H *Contd.—Aged Poor. Paupers and Dependents Relieved.*

1 Name of County.	2 Year.	3 Population, 60— 65— 65—	4 Number of Paupers and Dependents at 14th May who were 60 or 65 Years of Age and Upwards.	5 Ratio per 1,000 of Paupers to Population, 60— or 65—
10. Dumfries	1892	(60—) 7,742	(60—) 533	68·84
	'93	(65—) 5,160	(65—) 449	87·01
	'94	(65—) 5,160	(65—) 456	88·37
11. Edinburgh	1892	(60—) 29,599	(60—) 1,882	63·58
	'93	(65—) 18,495	(65—) 1,510	81·64
	'94	(65—) 18,495	(65—) 1,503	81·26
12. Elgin	1892	(60—) 4,930	(60—) 542	109·93
	'93	(65—) 3,288	(65—) 433	131·69
	'94	(65—) 3,288	(65—) 435	132·29
13. Fife	1892	(60—) 17,374	(60—) 1,076	61·93
	'93	(65—) 11,435	(65—) 845	73·89
	'94	(65—) 11,435	(65—) 876	76·60
14. Forfar	1892	(60—) 22,338	(60—) 1,228	54·97
	'93	(65—) 14,095	(65—) 1,085	76·97
	'94	(65—) 14,095	(65—) 1,142	81·02
15. Haddington..	1892	(60—) 3,290	(60—) 314	95·44
	'93	(65—) 2,104	(65—) 250	118·82
	'94	(65—) 2,104	(65—) 267	126·90
16. Inverness	1892	(60—) 10,902	(60—) 1,452	133·18
	'93	(65—) 7,309	(65—) 1,227	167·87
	'94	(65—) 7,309	(65—) 1,253	171·43
17. Kincardine....	1892	(60—) 3,676	(60—) 151	41·07
	'93	(65—) 2,536	(65—) 182	71·76
	'94	(65—) 2,536	(65—) 181	71·37
18. Kinross	1892	(60—) 924	(60—) 52	56·27
	'93	(65—) 644	(65—) 40	62·11
	'94	(65—) 644	(65—) 48	74·53
19. Kirkcudbright.....	1892	(60—) 4,167	(60—) 447	107·27
	'93	(65—) 2,802	(65—) 340	121·34
	'94	(65—) 2,802	(65—) 381	135·96
20. Lanark	1892	(60—) 59,147	(60—) 5,426	91·73
	'93	(65—) 34,427	(65—) 4,182	121·47
	'94	(65—) 34,427	(65—) 4,373	127·02
21. Linlithgow....	1892	(60—) 3,114	(60—) 248	79·64
	'93	(65—) 1,974	(65—) 210	106·38
	'94	(65—) 1,974	(65—) 217	109·92
22. Nairn	1892	(60—) 1,088	(60—) 119	109·37
	'93	(65—) 723	(65—) 99	136·92
	'94	(65—) 723	(65—) 95	131·39

TABLE H *Contd.—Aged Poor. Paupers and Dependents Relieved.*

1 Name of County.	2 Year.	3 Population, 60— 65— 65—	4 Number of Paupers and Dependents at 14th May who were 60 or 65 Years of Age and Upwards.	5 Ratio per 1,000 of Paupers to Population, 60— or 65—
23. Orkney	1892	(60—) 4,325	(60—) 370	85·54
	'93	(65—) 3,053	(65—) 308	100·88
	'94	(65—) 3,053	(65—) 310	101·53
24. Peebles	1892	(60—) 1,233	(60—) 65	52·71
	'93	(65—) 782	(65—) 43	54·98
	'94	(65—) 782	(65—) 49	62·65
25. Perth	1892	(60—) 13,577	(60—) 859	63·26
	'93	(65—) 9,133	(65—) 741	81·13
	'94	(65—) 9,133	(65—) 672	73·57
26. Renfrew.....	1892	(60—) 14,573	(60—) 1,277	87·62
	'93	(65—) 8,716	(65—) 1,069	122·64
	'94	(65—) 8,716	(65—) 1,152	132·17
27. Ross and Cromarty..	1892	(60—) 10,641	(60—) 1,489	139·93
	'93	(65—) 7,071	(65—) 1,236	174·79
	'94	(65—) 7,071	(65—) 1,215	171·82
28. Roxburgh	1892	(60—) 4,631	(60—) 307	66·29
	'93	(65—) 3,169	(65—) 214	67·52
	'94	(65—) 3,169	(65—) 237	74·78
29. Selkirk	1892	(60—) 1,879	(60—) 56	29·80
	'93	(65—) 1,205	(65—) 81	67·21
	'94	(65—) 1,205	(65—) 79	65·56
30. Stirling	1892	(60—) 8,208	(60—) 632	76·99
	'93	(65—) 5,266	(65—) 559	106·15
	'94	(65—) 5,266	(65—) 577	109·57
31. Sutherland....	1892	(60—) 3,438	(60—) 358	104·13
	'93	(65—) 2,369	(65—) 415	175·17
	'94	(65—) 2,369	(65—) 409	172·64
32. Wigtown	1892	(60—) 3,779	(60—) 401	106·11
	'93	(65—) 2,617	(65—) 378	144·44
	'94	(65—) 2,617	(65—) 388	148·26
33. Zetland	1892	(60—) 4,424	(60—) 556	125·67
	'93	(65—) 3,133	(65—) 513	163·74
	'94	(65—) 3,133	(65—) 474	151·29

TABLE I.—SCOTLAND. *Nine Large Towns in Scotland.* In* 1892, *Paupers and Dependents* 60 *Years of Age and upwards.* 1893-94, *Paupers and Dependents* 65 *Years of Age and upwards.*

Name of Town.	Year.	Population.	Number of Paupers who were 60 and upwards, and 65 and upwards, at 14th May.	Ratio per 1,000 of Paupers to Population.
Glasgow (Glasgow, Barony, Govan comb.)	1892	40,444	3,918	96·87
	1893	23,044	2,886	125·23
	'94	23,044	3,103	134·65
Edinburgh (Edinburgh, St. Cuthbert's comb.)	1892	18,078	1,073	59·35
	1893	11,361	873	76·84
	'94	11,361	824	72·52
Dundee (Dundee comb.)	1892	10,064	545	54·15
	1893	5,766	520	90·18
	'94	5,766	549	95·21
Aberdeen (Aberdeen, Old Machar)	1892	10,044	704	70·09
	1893	6,512	652	100·12
	'94	6,512	662	101·65
Paisley (Paisley, Abbey)	1892	5,107	422	82·63
	1893	3,044	346	113·66
	'94	3,044	400	131·40
Leith (North and South Leith)	1892	4,239	260	61·33
	1893	2,520	206	81·74
	'94	2,520	205	81·34
Greenock	1892	3,860	241	62·43
	1893	2,245	224	99·77
	'94	2,245	255	113·58
Kilmarnock (Kilmarnock, Riccartou)	1892	2,244	270	120·32
	1893	1,439	222	154·27
	'94	1,439	207	143·84
Perth (Perth, Kinnoull)	1892	2,783	153	54·97
	1893	1,784	148	82·95
	'94	1,784	111	62·21

* Parishes having town populations above 30,000 in 1891.

Discussion *on* Mr. Loch's Paper.

Sir Colin Scott Moncrieff said that in Scotland they were rather proud of the fact that the law prevented the giving of relief to the able-bodied poor, and he should be very sorry to see that changed. As regarded the great changes in the condition of the country, the whole question of the poor in the Highlands was most puzzling. They had just got a new Congested District Board started, and were brought face to face with large populations, especially in the islands, who positively refused to leave their wretched unproductive moors, although on all economic grounds it was most desirable to get them away. The question was one of very grave difficulty, and unfortunately the difficulties had not been decreased by political rancour.

Mr. Thomas Mackay thought Mr. Loch's general contention was, that if there was no compulsory poor rate, or a very restricted one, there would be fewer paupers, and they might congratulate themselves that this was entirely in accordance with common sense; for with a lavish poor law there would naturally be more paupers to consume it. He was also of opinion that this paper effectually refuted the contention of an elaborate paper on Poor Law Statistics which was read before the Society some two years ago, and which apparently came to the conclusion that administration had very little to do with the amount of pauperism. The question as to whether such a restriction of the poor law was wise and humane was quite separate, but the statistical aspect of the question was obviously as Mr. Loch put it. Two slight matters struck him by way of criticism. In the statement about the improvement of industry and the expansion of trade in Scotland, Mr. Loch did not say anything about the 1*l.* Scotch notes which, though dirty, were still very dear to Scotsmen. It has been stated on high authority that the agricultural system of Scotland was very largely developed by the skilful adaptation of that system of credit of which the 1*l.* note was the basis, and when Mr. Loch revised the paper he hoped he would say something on the subject. There was one other point which had not been mentioned, which had always been a difficulty to him: the practice in Scotland was almost universal for the farm labourers to reside on the farm, whereas in England a totally different system was followed, especially in the south. In one of the inquiries into the question of settlement in England, it was suggested by one of the witnesses that in the old days the practice of acquiring a settlement by hiring for one year, was habitually evaded by the farmers refusing to hire people for more than fifty-one weeks. If they hired them for fifty-two weeks they became chargeable to the parish, and therefore they would only hire them for fifty-one. This, it was represented, led to a break of the constant employment which had formerly been the rule.

The farmers thus discovered that they could at seasons throw their labourers on the parish, preferably on a parish in which they (the farmers) did not live, and that from this the general practice of intermittent employment spread, till it reached such dimensions that in the bad time before 1834 it was one of the greatest banes of the agricultural labouring interest in England. Scotland somehow had remained free from that influence—could Mr. Loch throw any light on the subject? He was sure that they must all feel most grateful for the immense amount of trouble Mr. Loch had taken over this paper.

Mrs. McCallum said that both in Scotland and in the United States it had struck her very forcibly, that whatever may be the difficulties and disadvantages of the poor law, there is at any rate a definite system which can be studied and criticised, and is open to the influence of public opinion, and even to legislation in a way that private charity cannot be, and she was inclined to think that charity as it is commonly administered is more dangerous to character than the poor law, however we may deprecate the need for either. A circular published by the Scotch Board of Supervision some time ago, gave an analysis of 241 cases which had been struck off the out-door relief roll. Of these only 3 returned to the house, 55 were supported by relatives, and 100 became self supporting. This showed there was room for improvement even under the Scotch law, which excludes relief to the able-bodied.

Mr. G. Udny Yule said he desired to ask one or two questions on the comparative method adopted by Mr. Loch. He was not quite clear what the comparative pauperism finally arrived at really meant. Mr. Loch had taken the actual pauperism of a small district, and altered it in the ratio of the average pauperism during the decade in the whole of Scotland to the average pauperism during the decade in that small district. For what purpose was that alteration made? It presumably was for adjusting certain conditions of the smaller area to the conditions existing in the larger—but what conditions? The causes which affected pauperism might be taken in three groups: first, the actual economic conditions; secondly, the character of the people and the age distribution of the population; and thirdly, the character of the administration. If the crude rate of pauperism was adjusted for two of these the effect of the remaining one might be shown. He (Mr. Yule) thought at first that Mr. Loch meant to alter the actual economic conditions, so that the "comparative pauperism" would be an index to the character of the administration and of the people, but he was not clear whether that was so, because no actual measure of poverty was used, pauperism *ex hypothesi* depending partly on the other two factors, namely, the character of the people and of the administration.

To pass to another point, it might be as well to mention for those who did not know the country, that the districts used were not necessarily homogeneous, but rough groups like the registration

divisions of England. For instance, taking the Northern Highland groups: in that you had almost purely Gaelic speaking districts in Inverness and Ross and Cromarty, but in north-east Caithness the people were not Gaelic at all, but Norse or Northmen of somewhat the same race as the Shetlanders. Then again in Nairn, Banff, and Elgin there was some Gaelic spoken in the back of the counties away from the sea, but on the borders no Gaelic was spoken at all: the race was probably mixed. Highlander generally seemed to mean "Gael" to an Englishman, but this was not necessary.

Mr. E. W. Brabrook said it was a great gratification to him to find that the labours of his lamented friend, Dr. Walter Gregor, had contributed so much information to this very solid contribution to the statistics of Scotland. The main lesson of the paper was that it was the character of the people which determined pauperism more than anything else. In a poor country like Scotland, pauperism was much less than in England because the character of the people was more thrifty and careful. In that direction they had to seek the solution for the problems of pauperism which were now pressing upon them.

Major P. G. Craigie said he wished, as an official of the Society, to express most distinctly his hearty thanks to Mr. Loch for the extreme care and immense amount of trouble and time he must have devoted to preparing this most exhaustive paper. As had been clearly brought out in the discussion, it was impossible to make comparisons of pauperism without taking account of the character of the people themselves, the relative density of the population, and even the comparative development of industry or agriculture in the countries concerned. In that respect he might ask whether Mr. Loch had thought that the comparison between the aggregate of the Scotch figures and those of England, might not perhaps be made still more effective by comparing Scotland not with England as a whole, which was a different and more composite community, but with certain sections or parts of England only, or by a still more close analysis: by comparing say the central district of Scotland, or the populous district including Glasgow and Lanark, with the region dominated by Manchester and Lancashire, or other industrial centres, at different dates, as that would be more nearly comparing like with like. Many discussions on pauperism revealed the fact that averages for a whole country were extremely deceptive. This certainly was so in Scotland and also in England. He had felt much interest in the paper of that afternoon, as he had had occasion in early times to know a good deal about the Scottish poor law and had discussed its changes of administration with his old friend and neighbour in Perthshire, Mr. William Smythe, the Secretary to the Board of Supervision, the writer of the report Mr. Loch had quoted. They had to thank Mr. Loch for bringing forward a matter of most instructive history, which was too often forgotten.

Mr. C. S. Loch, in reply, said that it was difficult to select altogether suitable areas for statistical purposes. He had desired in the first instance to divide Scotland into areas which would be distinctive from the racial point of view, and thus endeavour to ascertain whether pauperism was connected with racial characteristics. He concluded, however, that this point would have to be dealt with separately, if indeed such an investigation could be carried out satisfactorily. In a measure, the statistics of counties would serve this purpose. As to the larger divisions, he had adopted those used by the Board of Supervision in Scotland, although at different times those divisions had been changed.

With regard to the comparison between Scotland and England and Wales, it was true that the border counties of Scotland could be more satisfactorily compared with Northumberland, Cumberland, and Durham, for instance, than could the whole of Scotland, with the whole of England. The comparison of the border counties in Scotland with those in England had been made in one of the reports of the Board of Supervision.

Mr. Yule had raised an important point. He had been led to adopt the comparative system which he had used, because he thought that by it he would obtain a more certain and stable comparison of the counties with special reference to such points as age, distribution, and the characteristics and shift of the population.

He was not sure whether his attempt was successful, but he hoped that what he had done would lead to a further investigation of this question. The recorded pauperism, averaged by decades, he had entered, and whether or not the methods of comparative pauperism which he had adopted were considered satisfactory, the recorded pauperism for the decade would remain a very good test of the condition of the country, division, or county.

With regard to Mr. Mackay's question, the lodging of farm labourers at the farms, it had been alleged, increased pauperism, but he had not found it possible to work this point out in detail. With regard to another question raised by Mr. Mackay, Mr. Loch stated that it would have been well to have mentioned the *1l.* notes, which did so much to promote economic well-being in Scotland. The question of what had been gained or lost by the introduction of assessments had interested him. The phrase "voluntary taxation" had been used a good deal of late, and he was interested to find how the voluntary system had been set aside by the accumulation of causes mentioned in his paper.

It had been a great pleasure to him to conduct the inquiries connected with his paper. He only wished time had allowed him to bring out some of his conclusions more clearly.

The Chairman (Sir Francis Sharp Powell, Bart., M.P.) said it was his duty to tender a vote of thanks to the reader of the paper, and it was never more due than it was to Mr. Loch on the present occasion. He confessed that he read it with a sense of awe. He had had experience during a great many years of the English poor law, but he found that across the Border the curtain was raised on new conditions, new history, new facts, new

problems, and new difficulties. The past history of every country was the only guide to an intelligent appreciation of the present, and certainly they could not thoroughly understand and appreciate the conditions of the Scotch poor law, except in the light of such history as Mr. Loch had given them. The conditions were different, but he confessed he was very much surprised to find that the result was almost the same, because in 1891 the ratio of paupers to population in Scotland was 22 per 1,000, and in England and Wales 26, a difference of only 4 in the 1,000. Even some season of great distress, or a labour convulsion in the nature of a strike, would produce a greater difference than that which existed between England and Scotland. It was also worthy of note that the ancient history of both countries should in one sense be the same. In this country, before Henry VIII adopted certain views and gave practical effect to them respecting monasteries, the relief of the poor was largely ecclesiastical. In Scotland, also, the system appeared to have been greatly ecclesiastical. What Henry VIII accomplished in his day, the great disruption of the Church in Scotland effected in the nineteenth century. There was the same difficulty in out-door relief in Scotland that there was in England. He somewhat regretted that they had not in England a distinction between enrolled poor and casual poor, but his experience as a poor law guardian was that the casual poor were very apt to become the enrolled poor. It was a miserable gravitation downwards, and he confessed that his experience was not encouraging in that regard. He believed in the enervating effect of all poor law relief, and felt sure that all administrations, both north and south of the Tweed, would do well to reduce out-door relief to the lowest possible limit. He regretted Mr. Loch had not been able to treat the question of vagrancy, which he believed to be an almost insoluble problem. The poor were always with us. The vagrant was always going, but unhappily he was always coming back, and in the circulation of that melancholy tribe they had the ultimate difficulty which no experience could solve and no skill could remove. He might congratulate all those who laboured in poor law administration on the beneficial effect of recent legislation. There were great expressions of fear when there was a change in the law of Local Government both in Scotland and in England, but they found, notwithstanding the change of system, that poor law relief remained very much as it was before the change took place. It was perfectly marvellous that so little alteration should have been made, and he thought the highest credit was due to those who administered the law. They had been able to follow a prudent policy in their administration. There were, and always must be, diversities of circumstances and conditions, but there was one fact which embodied all these differences and diversities, namely, that the task of poor law relief must always be a difficult task, calling forth, if success were to be adequately attained, the best qualities of administration, which was a distinctive characteristic of the Scotch and English races.

MISCELLANEA.

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I.—*The Right Hon. W. E. Gladstone.*

The death of Mr. Gladstone on the 19th May, 1898, naturally brings to mind the close connection which for many years existed between the great statesman and this Society. That connection takes us back to the very earliest days. It was on the 10th May, 1834, that Mr. William Ewart Gladstone, M.P., of the "Albany," was proposed for Fellowship, and his election took place on the 30th of the same month, in company with that of some thirty-seven other gentlemen, amongst whom may be noted such names as those of Mr. James Heywood, whose loss the Society deplored but last year, Lord Clive (afterwards Lord Powis), Herman Merivale, and Mr. R. Bethell, M.P., who afterwards became Lord Westbury. The next name in the candidates' book to Mr. Gladstone's is that of his wife's relative, Sir Stephen Glynne. These thirty-eight names constituted the first election to the Society. It is interesting, too, to note that Mr. Gladstone was proposed by Henry Hallam and seconded by Mr. William Burge, who was an active member of the Council. In 1852 Mr. Gladstone himself first joined the Council, where he remained till 1860, with the exception of one session. After a few years' rest he was re-elected in 1866-67. The following year he succeeded Lord Houghton in the Presidential Chair. Here he remained during a period of two years, though he did not deliver a Presidental Address, for at that time the practice of opening each session in that manner was not adhered to. In 1872 Mr. Gladstone finally went off the Council, and in 1876 his connection with the Society was severed by his resignation. That he still took an interest in its work is evidenced by a letter which he addressed to Dr. (now Sir Robert) Giffen during the presidency of the latter. As may be remembered, Mr. Henry George's book, "Progress and Poverty," had created widespread interest, and Dr. Giffen's Presidential Address on the "Progress of the Working Classes for the last Half Century" exposed its fallacies and corrected its errors, though it was not directly aimed at refuting

them. On the 28th December, 1883, Mr. Gladstone, writing from Hawarden, expressed the pleasure with which he had read the address, and his belief that "in form and substance it was probably the best answer to Mr. George."

Mr. Gladstone has not contributed to the Transactions of the Society, and we need not in this place dwell on his career or his attainments; that has been fully done elsewhere. His fame will endure more as one of our ablest financiers than as a great statistician. But we can hardly fail to remember that accurate and exhaustive statistics must be the ultimate foundation of every enduring system of finance.

II.—*Mr. John Towne Danson.*

The death of this gentleman, at the ripe age of 81 years, recalls the memory of one of the most energetic and devoted students of statistics at a date about fifty years gone by. The saying, "there were giants in those days," might well be applied to him.

When a student at the Middle Temple, he was chiefly employed as a journalist, and was one of the editorial staff selected by the late Charles Dickens in the autumn of 1845 for conducting the *Daily News*. Of the three leading articles in its first number, Mr. Danson wrote two. On the financial failure of that paper its management passed to Mr. Dilke, the then proprietor of the *Athenæum*, and Mr. Danson transferred his services to the *Globe*, at that time and for some years afterwards the organ of the Whig party. In days when the governing classes were feeling their way towards the adoption of free trade, a firm and clear yet candid and considerate discussion of the numerous practical difficulties attending this great change of policy was essential to its political success. Mr. Danson wrote for about five years all the leaders of the *Globe* touching financial and commercial topics, and may be said to have largely aided in giving to the policy of the party a continuous and consistent aspect.

About this time Mr. Danson became private secretary to Mr. (afterwards Sir) Benjamin Hawes, a leading politician of the day. Recent events lend additional interest to the fact that Mr. Danson was engaged in a controversy with Sir William Molesworth, another prominent politician, who regarded our colonies as something to be cut adrift as soon as practicable; in fact, as being burdensome, and involving serious responsibilities, ignoring the invaluable chances of employment they afford, without which our teeming population would fare but ill.

In 1848 his personal intimacy with Mr. Tooke, the author of the *History of Prices*, led to a continuance of that work. Mr. Danson contributed all the figures contained in vol. iv, and a very considerable portion of those in vols. v and vi, in the authorship of which section of the work Mr. Newmarch had the

chief share. At the time of his death Mr. Danson was engaged in continuing the history of commercial prices down to the present time, and it is hoped that this work, covering a most important commercial period, may ere long be completed and issued.

As an active member of the Statistical Society, and an original thinker, he contributed various papers to its *Transactions*, amongst which one or more were on the subject of the "Growth of the Human Body."

In 1853 failing health compelled him to adopt a country life, and he began farming somewhat largely at Barnston, in Cheshire. Here, as usual, his indefatigable labours procured success, and he became a prominent member of the local agricultural society. Regaining his strength, and having his hands comparatively free, he commenced practice at the Liverpool bar; and a contest arising as to the Exchange Buildings there, he framed and conducted the case of the opponents of the old company, and obtained the Act under which the present company was formed.

In 1860 he projected and eventually founded the Thames and Mersey Marine Insurance Company, Limited, the first marine insurance company started out of London. After taking a leading part in its management, first as secretary and afterwards as underwriter, during a period of more than twenty years, he retired from all business to his late residence at Grasmere.

Besides the papers he contributed to the *Transactions* of the Statistical Society, he wrote some for the Historic Society of Lancashire and Cheshire, and a series of valuable pamphlets upon British and foreign underwriting. He also produced one or two works on economical questions, advocating always thrift, self-help, and industry. His latest published works are *Our Next War*, containing a luminous sketch of the course of underwriting premiums in the eventful years 1805-15, and *Our Commerce in War and how to Protect it*, showing a remarkable acquaintance with the principles which should actuate public policy in relation to the capture of private property at sea in time of war.

Mr. Danson was called to the bar in 1847, and was, early in the fifties, appointed a member of the Royal Commission on Land Titles.

Mr. Danson's work on political economy was the outcome of a series of lectures delivered by him at the Liverpool Institute in the session 1875-76. These were printed and published in a book form, and in due course became quite out of print. In 1886 however the work was entirely re-cast and published by the Clarendon Press, under the title of *The Wealth of Households*, which had a considerable sale, and is often referred to by economists.

THOMAS A. WELTON.

Appended is a list of his principal writings:—

1. Lands. General map for England and Wales.
1*a*. Accounts of the Bank of England, 1847.
2. A contribution, &c. Prices of Food, 1848.
3. Colonies. Speech of Sir W. Molesworth, 1848.
4. Observation thereon. J. T. D., 1848.

5. Commercial Statistics of our Colonies, 1827-46.
6. Our Commerce with Russia, 1854.
7. To Members of Lancashire and Cheshire Historic Society, 1855.
8. On Farming agreements, 1855.
9. Wirral Agricultural Society. The Cental, 1856.
10. Lancashire and Cheshire Historic Society. Opening Address, Nov., 1856.
11. „ Concluding „ 1857.
12. Liverpool and Manchester. Ages of Population, 1857.
13. Liverpool Exchange Buildings. Report, 1858.
13*a*. Bye-Laws of Liverpool Exchange Buildings Company, 1859.
14. Foreign debtors, 1858.
15. To Directors of Joint Stock Companies, 1858.
15*a*. Population of Lancashire and Cheshire, 1858. Parts 1 and 2.[1]
16. „ 1859. Part 3.
17. Social Science Association. Liverpool address, 1859.
17*a*. Population of Lancashire and Cheshire. Part 4 and last.[1]
18. Liverpool Chamber of Commerce. The Cental, 1859.
19. Statistical inquiry, 1859.
20. Country Dwellings for Town Labourers, 1859.
21. Transfer of Goods on Sale, 1860.
22. Chambers of Commerce and the Government, 1860.
23. American Civil War, 1861.
24. The common truths of Political Economy, 1861.
25. Deposits the basis of Banking, 1862.
26. The Growth of the Human Body, 1862.
27. Liverpool Institute. Rev. Joshua Jones, 1862.
28. „ Speech, October, 1862.
29. „ Address, February, 1863.
30. The Uses of Discussion. December, 1863.
31. Liverpool Institute. Speech, October, 1863.
32. Landowner and the State, 1864.
33. Foreign Debtors in England, 1869.
34. Bank *v.* Cash-Box, 1875.
34*a*. Growth of Human Body, 1881 (*Journal of the Statistical Society*, vol. xliv, p. 660, 1881).
35. Report of Council of Queen's College, 1881.
36. Reasons for establishing a Marine Insurance Company in Liverpool, 1859.
37. Marine Re-insurance, 1863.
39. The New Marine Insurance Companies, 1866.
40. Jettison and General Average, 1869.
41. Liability of Shipmaster when Pilot is on Board ("Spindrift").
42. The Pilotage of Liverpool, 1871.
43. The Eastern Trade Bill of Lading, 1872.
44. About Lloyd's, 1872.
45. The proposed Legislation touching Maritime Contracts, 1876.

Also Reports on Underwriting in England and Abroad, annually from 1872 to 1884.

III.—*On Census Matters discussed at the St. Petersburg Meeting of the International Statistical Institute*, 1897. By J. A. Baines, C.S.I.

Major Craigie requested me to supplement his paper on the work of this Congress with a few remarks upon the subjects con-

[1] These were the joint work of J. T. Danson and T. A. Welton.

nected with a census, which came up for discussion on that occasion. I have reserved, however, what I have to say for a Note in the *Journal*, in preference to diverting the short time available at the ordinary meeting from the consideration of the many more popular topics noted in the paper to what is, after all, of technical, rather than of general interest.

The Congress had before it in more or less prominence four subjects connected with a general enumeration. As to the first of these, the proposal for a simultaneous census of the civilised world, I have little to add to the opinion of the special Committee appointed by the Society to consider the matter, which has already been submitted and published. The rate of increase or development of population is of the utmost importance in relation to previous rates in the same country, but, as it is affected by influences peculiar to that country, the necessity for maintaining equi-distant intervals of enumeration is paramount to the desirability of being able to institute exact comparison between the rate in other areas, where possibly the influences have been widely different. This seems to have been the view taken by most of the larger States represented on the roll of the Institute, and as, according to the replies reported by Major Craigie, nearly 80 per cent. of the population represented does not accept the proposed alteration of their date of census, the scheme may be considered to be at least in abeyance, if not altogether abandoned.

We have, secondly, a suggestion that a normal, or standard distribution of the population by age should be adopted, in accordance with which the variations of birth- and death-rates in each country should be measured, and deviations, I presume, explained as abnormal features. It appears that this project, too, came to a somewhat untimely end. I do not know how far my colleague Mr. Noel Humphreys is disposed to accept the distribution of age in Sweden as normal, whether it is revised decennially or not, but it seems to me that the object in view can be attained by less hypothetical means, or even by the rough and ready mode of taking a mean of the distribution in countries larger and with more varied development than Sweden.

The third proposition, referring to the need of uniformity in the contents and method of compilation of tables of international importance, is one which has already received some attention at our hands, and is sure to meet with close and sympathetic consideration in any new development it may assume. It appears from Major Craigie's paper that the voluminous conclusions put forward by our optimistic colleague Dr. Körösi were adopted. I trust however that this course is merely a counsel of perfection, because when we have strained at the gnat of a simultaneous enumeration, we cannot be expected to swallow the camel of the sixteen tables of Dr. Körösi's scheme. There are fourteen subjects on which international comparison is contemplated, but of these the special Committee selected only five, as we considered the rest to be either of national rather than international value, or of a description which was too complex, or which involved the probability of too great prejudice or inaccuracy to make it worth while to trust

to the rough and ready methods of a synchronous census for their collection. In the first category I should place religious denominations, though some would include it in both. Nationality again, whether ethnographic or political, is of local interest only. The same may be said of the degree of instruction, which, moreover, like denomination, is not likely to be returned in accordance with the intention of the framer of the schedule and the rules under it. We differ, again, as to the treatment of divorced persons. Dr. Körösi and other continental statists would have this class discriminated in the return, but the special Committee, two members of which had but recently recovered from the slings and arrows of the outrageous householder, was confident that such discrimination was misleading, since the return would be grievously incomplete, owing to the mis-statements of the people in question, whichever the sex. I must avow, however, that the expedient recommended by us, of including the divorced under the head of widowed, is not free from the same objection, my own experience being that, whatever the sentiments of the ex-husband, there is a marked reluctance on the part of the woman with a past to formally recognise the event which brought that past into public notice; she holds, accordingly, that once a wife always a wife, so long as her Benedict is above ground, and she returns herself as such. Nevertheless, the plan of thus merging as far as possible the divorced with the widowed seems less likely to lead to statistical error than the endeavour to get people to admit their marriage to have been a failure. It has the further advantage, too, of being of greater economical significance. To at least one distinguished member of the council my suggestion on this question, that from the standpoint of social economy the widowed and divorced stood on one plane, afforded, I remember, considerable amusement at the time, in spite of which I still maintain that in estimating the distribution of the productive section of the population, the divorced take rank with the widowed, both being in the marriage market as secondhand goods, under some slight depreciation, according to the immortal Weller the elder, from previous experience; but then he speaks only of one sex, and ignores divorce.

The detail in which the distribution by age should be given is a question which enters into the determination of the form of the return of civil condition as well as that in which the sex only is combined with the age. In western Europe it is sufficient to start the return at 15 years old, since all are unmarried below that age. As we go eastwards, however, the limit must be lowered, in accordance with the orientalisation of the customs of the people. In the south-east of Europe married girls of from 12 to 14 are by no means rare, and if the international comparison is intended to include India, the table must start from birth, since the betrothal, which is there returned as marriage, takes place among certain communities at the earliest age. In a well known agricultural caste of the west of India, more than half the boys and 86 per cent. of the girls under 10 were returned as married, whilst in the next quinquennial period the proportion rises to 82 in the one case and 97 per cent. in the other. But outside

these special cases, the general proportion of the married amongst boys and girls under 15 in India is 6 per cent. in the former, and 17½ per cent. in the latter. In Bulgaria and among some of the Russian tribes, no doubt, there is the same tendency to forestall the misfortune which the fervid East assumes to be inevitable when, as it expresses it, fresh butter is put out in the sun! As for the subdivision of the higher ages, the special committee expressed no opinion, but it seems to me that quinquennial periods above 45 are superfluous, the information required being obtainable equally well from decennial, with a more than proportionate saving of time and expense in tabulation.

In regard to the age-distribution in general, the special Committee decided in favour of annual periods for the first quinquennium and merely five yearly groups afterwards. The scheme of Dr. Körösi provides for the continuation of annual periods to the end of life. At one time, I admit, this plan appeared to me to have its merits, but subsequent experience brings me to the conclusion that whilst desirable, and indeed necessary, for a representative selection of the population at large, it is of no practical use in the case of the whole aggregate. I consider it to be a good test of the inaccuracy of the general return of ages by an illiterate community, as, for instance, in the two returns from some of the southern States in America, where the white and the negro population is given by annual periods side by side. In India I proceeded on the plan mentioned above, of tabulating a certain number of schedules in each province by annual periods, the results throughout the table of 100,000 of each sex being much as shown below :—

Males.				Females.			
Years.		Years.		Years.		Years.	
9	1,857	49	131	16	2,045	39	254
10	3,567	50	3,647	17	861	40	5,210
11	1,112	51	128	18	2,397	41	193
19	668	69	28	19	636	59	102
20	4,014	70	681	20	5,052	60	2,811
21	531	71	33	21	536	61	112
34	532	99	1	29	425	79	16
35	3,977	100	12	30	6,243	80	389
36	805	101	1	31	300	81	11

It is obvious, accordingly, that for an illiterate population such detail is useless, and even in western Europe those who have to make actuarial use of age-tables are not likely to trust to the raw material, but will always smoothen out the curve by redistribution and interpolation. The proposal of the Committee of this Society, therefore, seems to commend itself for practical utility. In connection with this distribution, too, a question arises as to whether or not a limit should be placed towards the end of the series. In this country 95, and in India, 60 years seem to fulfil all the needs of the case. I have noticed that centenarians invariably tend to abound more in an illiterate than in an educated community, where Sir G. C. Lewis considered they had no place at all. On the other hand, I note in a morning paper of the very date on which I write

these lines, a recommendation of certain precepts, by the practice of which every one of us is said to be enabled to achieve his century. As, however, these precepts range from the comparatively easy injunction to sleep on one's *right* side, to the more difficult, perhaps impossible, tasks of avoiding worry and of keeping one's temper, the observance of the code is hardly likely to be so general as to raise materially the average expectation of life amongst the community at large. In this country, with a population of 29 millions, the number of centenarians in 1891 is returned at 146, of whom 104 were women. At the preceding enumeration the corresponding return for 26 millions was 141, of whom "the sex" furnished but 97. In Bulgaria, on the other hand, a population of 3·3 millions furnished no less than 3,372 persons who returned themselves at the census as having attained 100 years and over, and here the men put in their claim to 1,531 cases. In Greece, again, out of less than 1½ millions, 278 centenarians are shown in the record, the women being again a trifle in excess.

Chile, again, to cross the Atlantic for another example of such levity of record, showed numerous centenarians in a comparatively small population, and officially boasts in the report of the possession of "perhaps the oldest man in the world," whose name and address are given for the benefit of the inquirer. This is indeed what the immortal Mulvaney stigmatises as "trumpeting vainglorious." As our Registrar-General puts it in his report, "it may be doubted whether the age of many of these reputed centenarians would stand the test of rigid investigation." The possibility of the extension of life to more than 100 years, even for people who have weathered their troubles and sleep on *both* sides has of late years been placed beyond reasonable dispute, but the paucity of true instances of such longevity makes it open to doubt whether the census returns should be tabulated in a way to confuse such cases with the far greater number of the erroneous claims based on pure ignorance and its accompanying tendency to exaggeration.

Nationality, again, seems a factor of which a census can take but imperfect cognisance; birthplace, indeed, is a definite fact of which the return, provided the instructions be simple, is obtainable with comparative ease and accuracy. When, however, the political element is introduced, as in the question of allegiance and naturalisation, I doubt if the census return will prove adequate as a basis for State action, since it seems to me to have but a very sandy foundation. There are departmental records available which, though perhaps incomplete for the actual moment, probably give, for a fairly long series of years, a sufficiently accurate view of the general position with regard to the proportion of aliens incorporated into the population.

There remains the thorny question of the international comparison of the statistics of occupation or means of livelihood, on which much writing has of late been expended. To this I have contributed already, so that I will add nothing in connection with it on this occasion. The utmost that seems to me practicable is the comparison of very wide and comprehensive groups, without

any attempt to obtain comparable results in detail. A more important object is the reaching of some definite understanding as to the scope of the returns, which is a question as open now as twenty years ago. Each country naturally objects to abandon its own system and thus lose touch of its former work. The accurate subdivision of those who live by each occupation is the end which the personal equation of the enumerator and enumerated alike seems destined to frustrate.

On one of the points involved in the international series of returns I am inclined to go further than the propounders thereof, namely, in the distinction between town and rural conditions in each of the five main subjects. The difficulty lies in defining urban areas, since the population test must vary in regard to its lower limit with the conditions of each country. It is worth consideration, however, whether a limit should not be fixed for international purposes so high that it will be assumed with justice to connote distinctively urban conditions throughout the civilised world. I suppose that the minimum of 100,000 certainly, or 75,000 probably, might be accepted, as in most, if not all, places of this population urban conditions begin to prevail.

The Russian Census.

From international comparisons I pass to the more concrete subject of the magnificent enterprise undertaken under the supervision of our distinguished colleague Dr. Troinitski, the enumeration of Russia, which he has recently brought to a conclusion with a success which commands our most hearty congratulations. In these perhaps I can join with even better reason than those who have experienced the toils and pitfalls of a European or American enumeration only, and have never been face to face with the many strange problems with which we have to deal in the census of a vast, scattered, varied, and illiterate population like that of a great part of the Russian empire. The descriptive summary furnished to the Congress by Dr. Troinitski causes to vibrate in my memory many fibres *infandi doloris*, and furnish additional evidence, if any were needed after that of Sir Donald Mackenzie Wallace, of the extraordinary similarity between the Russian and the Indian stage of rural civilisation. In going through Wallace's book I was often almost persuaded to think he was writing of the Indian village and the conditions with which it was then my function to grapple. So too in skimming Dr. Troinitski's abstract, I can enjoy, from the sheltered rock of official retirement, the interesting spectacle of a colleague still wrestling with the census tumult with which it was formerly my lot to struggle. In Russia, as in India, we find tracts so wild, thinly peopled, or difficult of access and traverse, that the system of enumeration in force in the more civilised regions had to be simplified, and the rigour of procedure relaxed. Religious prejudices, again, had to be calmed, and the preliminary return seems to indicate that the further east we go the greater the probability that the correct number of women will not be returned, a working hypothesis confirmed by experience in

Greece, Bulgaria, and India. Then, too, whilst in the rural tracts of India more than 95 per cent. of the population is totally illiterate, in Russia the figure is 90. It follows that the schedules had to be filled up in both cases by special enumerators. In order to facilitate operations conducted upon this system, Russia adopted the same method as we introduced into the Indian census in 1881, of a preliminary record of each household from three weeks to six days before the actual enumeration. The latter operation was thus reduced to the completion of the record by bringing it up to date. The practice also has the advantage of allowing a considerable test and correction of the work done by the special staff of enumerators. In regard to the provision of the latter, India seems to be more fortunately situated than its Hyperborean neighbour. The system of village administration in the former furnished the nucleus of a fairly well trained staff knowing the locality and accustomed to simple accounts. In the towns, too, the services of corresponding subordinate officials of the Government or the municipality were available, and in order to utilise these services, the routine work of the machine was stopped for a day or two. In Russia most of the enumerators first appointed were stipendiary, and engaged especially for the work; afterwards however a number of enumerators were induced to accept the task by the bestowal of a medal with the Imperial image and inscription thereon, a bait which seems to have proved effective. In India we had no need to resort to an appeal of so substantial a nature to the loyalty of the lieges. It is a matter worth Mr. Noel Humphreys's attention whether, considering the high rate of pay demanded in this country, some expedient of that sort might not be resorted to in 1901. The experience of our late President, Mr. Bateman, as to his sentiments on receiving the Jubilee medal might help in the decision. At all events, owing to the paucity of cash budgetted for paying suitable enumerators, the enumeration areas in Russia had to be made far larger than in India, and contained an average of 2,000 people in the country and of 750 in the towns. Our aim in India, and we generally succeeded, was to maintain an average of 300 people, with a slightly larger circle in the towns. Against 150,000 on Dr. Troinitski's staff, accordingly, we had not far short of a million engaged in India. The population of Russia, however, is returned as only about 44 per cent. of that of India, though the number of languages used in connection with the taking the census is greater. No less than 44 are quoted by the superintending officer, whereas we found 17 sufficient in our eastern empire, the rest of the 150 or so returned in the schedules not being recognised in literature. The expenditure on the schedules themselves, again, seems to have been greater in Russia than in India, probably because in the former case only one side of the sheet was used, whereas in India the schedules were bound in books and both sides employed. The Russian total came, accordingly, to about 1,180 tons, against only about 290 debited to us in 1891 for India.

In connection with this question, I may point out a slight error into which not only our colleague, M. Levasseur, but others

in his wake have fallen, as regards the enumeration in India. In his natural anxiety, considering that the Congress sat after the Cronstadt lunch, when the tepid phrase *entente* was warmed up into the blessed word *alliance*, to show everything Russian in the most favourable light, M. Levasseur stated that the census of Russia was the most arduous undertaking of the kind that had yet been accomplished, because, though India contained a larger population, the enumeration there was not conducted by schedules. In his enthusiasm, no doubt, he overlooked the description of the various census methods given in Mr. Hooker's paper before this Society in the beginning of 1894, or, perhaps, again, he did not. At all events, the only difference in the *modus operandi* of Dr. Troinitski from that adopted by the Indian census authorities is that the enumerator in Russia used a separate schedule for each house and kept it in an envelope; whilst in India, the whole of the schedules for the block were bound together, a page being reserved for each household. Then, again, in justice to the Indian census, I must point out that the final enumeration, or census proper, was taken simultaneously between seven and twelve on one evening throughout the empire, except in the desert and a few forest tracts of scanty population. In Russia, on the other hand, the enumeration was by no means synchronous throughout the country, as each enumerator started, indeed, simultaneously, but was allowed four days in the towns and five in the villages to bring his record up to date. It is true that he was enjoined to refer all entries to the actual date fixed for the census, but even an inexperienced census Commissioner knows what such discretion means, and to what inaccuracy, as regards travellers, guests, and the like, it opens the door. With all deference, therefore, to M. Levasseur and to Dr. Dillon, who seems to have adopted his words in a recent magazine article on the subject, I maintain that the census of India still stands before all others in the extent of the population enumerated and the detail obtained. If I wanted to add a perfume to the statistical violet, I might further point out that the preliminary totals of 287 millions were out within five weeks, and the Russian within three months, of the census. What is more to the point is the evidence obtainable from the census as to the progress of the increase of the population of Russia. Here again we find features not unlike those of India. About 85 per cent. of the population of Russia are peasants, and this is not very different from the Indian figure. Like India, too, Russia feels from time to time the retarding influence of extensive failure of crops, and in Asia the scourge of epidemic disease. We have some correspondence, too, in the uncertainty regarding the population at any period before the census was taken. In both countries partial or local enumerations had been made for special purposes, but nothing of the nature of a synchronous census had given a base line for estimates of a trustworthy character. For India we have had at least one intercensal period of ten years of normal conditions; the rate of increase therefore is fairly determined within the wide limits one must allot to all tropical calculations. In Russia, however, it does not appear that the

former estimates were of appreciable value, and even the more accurate estimate of 1858 has long been obsolete. It is to this cause, no doubt, that are due the extravagant forecasts which have appeared in some continental papers as to the period within which all Europe would fulfil the prophecy of Napoleon, by becoming Cossack, except, of course, where it is French. The high death-rates in Russia seem to nearly counterweigh the high birth-rate; and, even under normal conditions, the tendency of the rate of annual increase is to diminish as the country fills up. The tide of migration seems to be set—in European Russia, at least—to the eastwards, rather than towards the civilisation of the west. It will take another census to tell us at what rate, and in what direction lies the real progress of this great country.

IV.—*The Agricultural Returns of* 1897.

The agricultural returns, collected annually in Great Britain, are now, as a rule, made public in seven successive preliminary statements, issued as each section is completed by the Board of Agriculture, either directly to the press or through the columns of the Board's journal, the earliest particulars being available before the completion of the month of August in the year for which the data respecting crops and live stock are collected. All these separate statements, together with a variety of incidental agricultural statistics, extending the information for Great Britain to that obtained from other parts of the United Kingdom, and embracing also comparative records of the prices, imports, and exports of agricultural produce, and various data respecting the agriculture of foreign countries and British possessions, are combined for convenient reference in a single Parliamentary return.

In the explanatory report prefacing the returns for 1897, Major Craigie points out that the statistics for Great Britain rest upon the information collected from 520,322 separate schedules filled up by the occupiers of land, with supplementary returns as to live stock from over 14,000 owners of live stock who either occupied no land at all or whose holdings did not exceed 1 acre, the limit which is taken account of in the returns. In only 3·3 per cent. of the total number of returns, representing less than 5 per cent. of the cultivated surface, was it necessary to resort to estimate.

The measured surface of Great Britain treated of in the returns is distributed as shown below:—

	Acres.
Total area of land and water	56,773,000
Returned (in 1895) as under woods and plantations	2,726,000
Estimated area of mountain and heath grazings	12,820,000
Returned in 1897 as permanent pasture	16,513,000
,, arable land	16,007,000

It is the last two of these items which make up the cultivated area of Great Britain, the distribution of which in 1897 is treated in these returns under the several heads of crops and grass.

The difference shown in the extent of this cultivated area of 32,520,000 acres, compared with the similar figures for 1896, is again in the direction of decrease, but the diminution is insignificant, and is explained to be in part accounted for by the annual withdrawal of land from cultivation for building and other purposes, while certain down lands, formerly regarded by the occupiers as grass within the cultivated area, are now more properly classed under the third of the headings shown above.

The arable area of Great Britain in 1897, it is noted, had increased partly by the renewed favour accorded to wheat growing under the influence of the higher prices of the autumn of 1896, and partly owing to a stricter classification of certain areas of clover and temporary grasses as belonging properly to the category of technically arable land. The wheat area alone was greater than in 1896 by 195,000 acres, and this increase, drawn largely from the areas under barley and oats, following the still more considerable recovery of 1896, had nearly but not quite compensated for the loss of more than half a million acres of wheat shown in the returns for 1895.

Adding to the figures for Great Britain the information available for the other sections of the United Kingdom, and making use of the separately collected Irish statistics and those for the Isle of Man and the Channel Islands, the aggregate areas under the principal groups of crops in the past three years are shown as under:—

United Kingdom.	1895.	1896.	1897.
AREAS.	Acres.	Acres.	Acres.
Under all crops and grass ...	47,883,133	47,882,099	47,868,553
Permanent pasture	27,831,117	27,973,688	27,924,710
Arable land	20,052,016	19,908,411	19,943,843
Corn crops	8,865,338	8,862,608	8,890,092
Green crops	4,399,949	4,429,264	4,327,568
Clover, &c., under rotation ...	6,061,139	5,960,449	6,152,798
Flax.....	97,225	74,098	46,995
Hops	58,940	54,249	50,863
Small fruit	74,920	76,797	70,245
Bare fallow	494,505	450,946	405,282

By further combining the Irish returns of produce with those for Great Britain, the following figures show roughly the estimated gross produce of the several principal crops, in quarters and tons respectively, in the United Kingdom:—

Crops.	1895.	1896.	1897.
	Qrs.	Qrs.	Qrs.
Oats	21,810,000	20,357,000	20,445,000
Barley	9,379,000	9,728,000	9,077,000
Wheat	4,786,000	7,281,000	7,037,000
	Tons.	Tons.	Tons.
Potatoes	7,065,000	6,263,000	4,107,000
Turnips	29,221,000	28,037,000	29,785,000
Mangold	6,376,000	5,875,000	7,379,000
Hay (all sorts)	12,238,000	11,416,000	14,043,000

Limiting the examination to the detailed reports collected for the Board of Agriculture, and relating to the area of Great Britain alone, the varying yields per acre of the recent years are contrasted in a table, wherein the average of the estimated yields of wheat, barley, oats, potatoes, and hay over the whole ten years 1887-96 (inclusive) is represented by the figure 100 in each case, and the relative character of the annual harvests of each crop in Great Britain over this period is shown in relation to this standard:—

Year.	Wheat. — Average 1887-96, 29·49 Bushels per Acre = 100.	Barley. — Average 1887-96, 32·82 Bushels per Acre = 100.	Oats. — Average 1887-96, 38·13 Bushels per Acre = 100.	Potatoes. — Average 1887-96, 5·97 Tons per Acre = 100.	Hay (Clover). — Average 1887-96, 27·58 Cwts. per Acre = 100.	Hay (Permanent Grass). — Average 1887-96, 22·53 Cwts. per Acre = 100.
1887 ...	109	95	91	107	99	92
'88	95	100	98	87	102	125
'89	101	97	103	104	121	130
'90	104	107	109	89	111	118
'91	106	104	102	96	103	104
'92	89	105	102	97	93	85
'93	88	87	93	110	68	56
'94	104	105	109	93	118	127
'95	89	97	97	111	98	85
'96	114	102	97	106	88	78
'97	99	100	101	87	105	111

It is interesting to compare the average prices of wheat, barley, and oats over quinquennial periods, as by extending the periods in this way the trend of prices is more clearly seen and the fluctuations in values due to merely temporary causes are largely eliminated. The single-year prices for the broken period which has elapsed since the expiration of the last quinquennium are added:—

Quinquennial Period.	Wheat.	Barley.	Oats.
	s. *d.*	*s.* *d.*	*s.* *d.*
Annual average, 1876-80	47 6	36 5	24 3
„ '81-85	40 1	31 2	21 2
„ '86-90	31 5	26 10	17 8
„ '91-95	27 11	25 3	18 –
Single year, 1896	26 2	22 11	14 9
„ '97	30 2	23 6	16 11

The report deals also with the fluctuations in the number of live stock in Great Britain shown in the tables. These include a decline in the number of horses returned in 1897, and a very slight increase, arising wholly in the Scotch counties, in the number of cattle. Sheep were fewer by somewhat under 1½ per cent., and swine (in which the fluctuations are usually more considerable, and sharply follow any upward or downward movement in values) were less than in 1896 by nearly 19 per cent. The last five years' changes in the cattle, sheep, and swine in Great Britain may be shown by summarising the totals of each group of live stock as under:—

[000's omitted.]

Years.	Cattle.	Sheep.	Swine.
1893.....	6,701,	27,281,	2,114,
'94.....	6,347,	25,862,	2,390,
'95.....	6,355,	25,792,	2,884,
'96.....	6,494,	26,706,	2,879,
'97.....	6,500,	26,341,	2,342,

There appear to be great difficulties in the way of arriving at any satisfactory figures in regard to the prices of meat. The range of nominal prices quoted at the markets is very wide, and the basis adopted for calculation is not universally accepted.

The following table shows the comparative prices at the Metropolitan Cattle Market for each year of the period 1893-97 (inclusive). Here it may be observed that the quotations are based upon a stone of 8 lbs. (sinking the offal). In a parallel column these prices are for convenience converted into the equivalent prices per cwt.:—

Year.	Cattle.		Sheep.	
	Per Stone of 8 lbs.	Per Cwt.	Per Stone of 8 lbs.	Per Cwt.
	s. *d.* *s.* *d.*	*s.* *d.* *s.* *d.*	*s.* *d.* *s.* *d.*	*s.* *d.* *s.* *d.*
1893	2 10 to 4 9	39 8 to 66 6	3 8 to 5 5	51 4 to 75 10
'94	2 5 „ 4 6	33 10 „ 63 –	3 7 „ 5 10	50 2 „ 81 8
'95	2 8 „ 4 6	37 4 „ 63 –	3 11 „ 5 11	54 10 „ 82 10
'96	2 4 „ 4 5	32 8 „ 61 10	3 3 „ 5 5	45 6 „ 75 10
'97	2 5 „ 4 6	33 10 „ 63 –	3 8 „ 5 8	51 4 „ 79 4

Here it will be seen that in 1897 the price of beef went up to the level of 1894. Mutton was more depressed than beef in price during 1896. It recovered more of its drop, too, in 1897 than did beef in that year. But it did not quite get back to the average price of 1895, though the mutton prices of 1897 are better than those of 1893, the first year of the period under review in the table quoted above.

Treating the price of beef over quinquennial periods, as has just been done in the case of cereals, and examining the reports of certain local markets and the Customs records for prices of imported beef, the following results appear:—

Prices of Beef (per Cwt.).

Period.	Metropolitan Cattle Market.*	London Central (Dead Meat) Market.†	Liverpool Market.	Glasgow Market.	Average Values of Fresh Beef Imported.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*
1876-80	59 6 to 81 8	40 10 to 73 6	49 – to 67 8	57 2 to 68 10	53 4
'81-85	56 – „ 80 6	42 – „ 70 –	42 – „ 64 2	57 2 „ 68 10	54 2
'86-90	36 2 „ 66 6	29 2 „ 57 2	32 8 „ 54 10	44 4 „ 54 10	44 7
'91-95	38 6 „ 65 4	28 – „ 58 4	29 2 „ 50 2	35 – „ 53 8	41 2
'96.....	32 8 „ 61 10	22 2 „ 54 10	30 4 „ 46 8	32 8 „ 50 2	37 10
'97.....	33 10 „ 63 –	30 4 „ 57 2	35 – „ 49 –	35 – „ 53 8	38 5

* The prices here are estimates made in regard to the meat of animals not yet slaughtered.

† The prices at Smithfield are quoted in respect of carcases from all sources, *i.e.*, home bred animals, animals bred abroad and killed on landing, and also of chilled and frozen meat.

For the reasons stated in the notes to the above table, it will be seen that the prices at the London Central Market, including as they do those of lower grade meat, naturally range below those ruling at the Metropolitan Cattle Market. Comparing the prices of beef in 1897 with those of 1896, it appears that there was a distinct improvement last year on the prices ruling in its predecessor.

So, too, in mutton there is a recovery of price in 1897, as shown by the Liverpool and Metropolitan market prices in the following table. The Smithfield prices are exceptionally lowered by the inclusion in the return of imported meat; for in 1897 the fall in the price of frozen mutton, due to the increased volume of supplies, was continued.

Prices of Mutton (per Cwt.).

Period.	Metropolitan Cattle Market.		London Central (Dead Meat) Market.		Liverpool Market.		Glasgow Market.		Average Values of Fresh Mutton Imported.	
	s. *d.* *s.* *d.*		*s.* *d.* *s.* *d.*		*s.* *d.* *s.* *d.*		*s.* *d.* *s.* *d.*		*s.* *d.*	
1876–80	65 4 to 95 8		45 6 to 84 –		65 4 to 84 –		56 – to 67 8		—	
'81–85	68 10 „ 93 4		46 8 „ 82 10		60 8 „ 80 6		58 4 „ 68 10		58	5
'86–90	51 4 „ 82 10		35 – „ 71 2		51 4 „ 72 4		58 4 „ 70 –		41	2
'91–95	51 4 „ 80 6		28 – „ 67 8		44 4 „ 66 6		49 – „ 68 10		38	5
'96.....	45 6 „ 75 10		22 2 „ 65 4		42 – „ 66 6		45 6 „ 63 –		32	7
'97.....	51 4 „ 79 4		23 4 „ 67 8		42 – „ 70 –		47 10 „ 65 4		30	3

As regards foreign and colonial statistics, it is to be observed that details of the live stock of British India (except Bengal and Scinde), are given for the years 1894-95 and 1895-96. The revision of these figures is becoming more complete, and they promise to be more valuable in the future. Servia makes her first appearance in the tables. Denmark, whose last available figures as to crop area in last year's report were those for 1888, now shows those for 1896. Japan has also largely extended her figures. Belgium alone makes no move in the direction of supplying statistical information in regard to acreage and live stock; no figures dealing with this subject have been supplied by her since the year 1880! Roumania makes a provisional statement, which shows that the yield of the grain crops for 1897 was very considerably diminished. The extent to which it is permissible to make international comparisons for the bases of the returns from various countries is discussed, and attention directed to the essential differences in the area and population, as well as the statistical methods of the States whose agricultural position is contrasted. The Report with the numerous tables comprising the volume of returns forms a valuable contribution to our scientific knowledge, and for the convenient form in which so large a mass of statistical information has been brought together, we have to thank the Board of Agriculture.

V.—*Silver Prices in India for* 1897. By Fred. J. Atkinson, F.S.S.

Part I.

1. The following table shows the course of silver prices in India of 100 commodities since 1870:—[2]

[2] See Society's *Journal*, March, 1897, p. 84, *et esq.*

TABLE I. [1871 = 100.]

1	2	3	4	5	6	7	8	9	10	11	12
Year.	Index Numbers of Prices in relation to the Rupee.				Total Index Number in relation to Silver.	Total Index Number in relation to Gold.	Index Number, Food (Col. 2), in relation to Gold.	Sauerbeck's Gold Price Commodities.	Gold Price Silver.	Gold Price Rupee.	Index Number, Articles of Indian Export (see Table VIII).
	Food, 60 Articles.	Raw Produce (not Food), 29 Articles.	Manufactures, 11 Articles.	Total.							
1870	122	104	100	*115*	115	114	121	96	100	100	106
'71	100	100	100	*100*	100	100	100	100	100	100	100
'72	106	104	99	*105*	105	104	105	109	99	99	104
'73 ...	112	100	94	*107*	107	104	109	111	97	97	105
'74	125	104	99	*116*	116	111	120	102	96	96	112
'75	108	97	94	*103*	103	96	101	96	93	93	101
'76	115	99	83	*107*	107	93	100	95	87	87	99
'77	166	103	85	*138*	138	124	150	94	90	90	108
'78	181	103	87	*148*	148	128	156	97	86	86	111
'79	160	105	89	*135*	135	114	135	83	84	84	113
1880	126	109	97	*117*	117	100	108	88	86	86	109
'81	109	104	96	*106*	106	90	93	85	85	85	103
'82	109	101	91	*105*	105	89	92	84	85	85	99
'83	112	101	91	*106*	106	88	93	82	83	83	100
'84	125	101	86	*114*	114	95	104	76	83	83	103
'85	125	99	80	*113*	113	90	100	72	80	80	97
'86	120	100	85	*110*	110	82	89	69	75	75	96
'87	120	102	90	*111*	111	81	88	68	73	73	100
'88	130	107	94	*119*	119	84	91	70	70	70	104
'89	136	112	102	*125*	125	88	95	72	70	70	109
1890	138	109	96	*125*	125	98	108	72	78	78	106
'91	144	107	94	*128*	128	94	106	72	74	74	108
'92	161	116	97	*141*	141	92	105	68	65	65	119
'93	153	118	106	*138*	151	89	98	68	58	64	126
'94	141	119	109	*131*	158	75	81	63	48	57	120
'95	132	126	111	*128*	149	73	75	62	49	57	119
'96	156	121	104	*140*	171	85	96	61	50	61	118
'97	200	115	97	*164*	237	107	130	62	45	65	119

2. The following Tables II and III give the monthly course of silver prices in India in relation to the rupee, and in relation to gold, since January, 1891:—

TABLE II.—*Monthly Prices in relation to the Rupee.*

Month.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
January	121	141	141	132	130	128	161
February	122	140	141	131	129	129	160
March	124	140	141	129	127	127	160
April	124	141	138	131	126	127	162
May	124	142	139	132	127	130	167
June	124	142	138	133	128	133	173
July	125	142	137	133	128	134	176
August	129	142	137	134	129	136	176
September	131	140	138	132	128	145	171
October	131	138	137	131	129	160	160
November	133	141	136	130	129	171	155
December	144	144	133	129	128	166	152

TABLE III.—*Monthly Prices in relation to Gold.*

Month.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
January	95	99	89	84	70	77	105
February	91	95	89	78	71	79	104
March	91	94	88	77	71	79	104
April	90	92	86	76	72	77	105
May	90	93	88	73	72	78	109
June	90	94	89	74	73	80	112
July	93	93	92	73	72	81	114
August	96	89	89	76	73	82	114
September	96	88	89	76	74	88	111
October	95	88	89	75	76	99	104
November	95	90	89	74	76	111	101
December	103	90	86	71	76	109	99

3. *Remarks on the Course of Prices in* 1897.

By the year 1892 rupee prices had gradually risen to 41 per cent. higher than the level of 1871. In 1893 the Indian mints were closed, the currency commenced a course of contraction, and rupee prices gradually fell to 128 in 1895. They continued low during the first half of 1896, but the failure of the rainfall in that year caused prices to rise very rapidly, reaching 41 per cent. in six months, and the index number for the whole year was 140, or one point lower than in 1892.

In November, 1896, it was fully realised that the rainfall had failed, the usual panic set in, and prices rose 11 points higher than in October, but they gradually settled down again, and by January, 1897, were again 11 points less, or the same as in October, at which they remained for the following three months. As the year progressed, however, stock diminished, and although average rains fell in June, yet prices continued to rise, and reached the high index number of 176 in July and August, falling to 171 in September, 160 in October, 155 in November, and 152 in December, giving an average of 164 for the whole year, the highest average in the whole period from 1861, the first year of the series, and 16 points higher than the great famine year of 1878.

Statement I. shows that *Food* prices in 1897 were on an average exactly double the prices of 1871, and that they rose 68 points as compared with 1895, whilst in 1878 they rose 66 points as compared with 1876. The prices of raw produce other than food, and manufactures, on the other hand, fell considerably in 1897 as compared with 1895, but in 1878 both rose as compared with 1876.

Looking at the prices of each article, we find that every item under *Food* rose in price, except sugar, ginger, ghee, and beef, each of which fell slightly. Of the articles of raw produce, not food, castor seed alone rose in price to any extent in 1897, as compared with 1895, whilst til, rape, raw wool, buffalo hides, bamboos, and teak remained practically at the same figure; a slight fall took place in the prices of raw cotton, raw jute, and tea, and the remaining items under this head fell considerably. Of the articles of manufacture, cotton goods remained at the 1895 figure, but every other item fell in price, some of them considerably.

Returning to Statement I, Cols. 10 and 11 give the gold price of silver and the rupee, showing silver at the lowest figure on record, and a marked rise in the rupee, the latter being 44½ per cent. higher than silver, and the average of the year for the rupee being the same as in 1892, the year previous to the closing of the mints.

This further heavy fall in silver, the rise in the rupee, and the high prices of articles of food caused by the famine, give the very high index number of 237 for Indian prices measured in silver, shown in Col. 6, representing a rise of 88 points in excess of 1895.

Col. 12 gives the index numbers of articles of export at the ports of export only, the figures in which are fully explained in Part II, para. 12.

4. The following Table IV gives the monthly index numbers

of silver and the rupee since the mints were closed in 1893. Daily prices have been taken in working out the averages :—

TABLE IV.

Month.	1893.		1894.		1895.		1896.		1897.	
	Silver.	Rupee.	Silver.	Rupee.	Silver.	Rupee	Silver.	Rupee.	Silver.	Rupee.
January.....	63·0	63·2	51·7	63·3	44·9	54·0	50·4	60·0	48·9	65·3
February	63·0	63·1	48·1	59·2	45·1	54·9	50·9	61·4	48·8	65·4
March	62·6	62·6	44·8	59·6	46·5	55·6	51·5	62·3	47·6	64·5
April.....	62·5	62·6	47·3	58·2	50·0	57·1	51·1	60·7	46·7	64·4
May	62·6	63·0	47·2	55·2	50·3	56·9	51·1	59·7	45·6	62·5
June	61·4	64·3	47·1	55·8	50·0	56·7	51·6	60·3	45·3	62·9
July	54·6	67·0	47·1	55·2	50·0	56·3	51·5	60·6	45·0	64·5
August	55·7	65·0	48·2	56·8	50·0	56·7	50·8	60·6	41·2	66·6
September...	56·1	64·7	48·7	57·9	50·2	57·7	49·9	60·7	42·0	67·8
October.....	55·5	64·8	47·8	57·0	50·9	58·9	49·4	61·6	43·9	66·9
November ...	52·9	65·2	47·6	56·8	50·6	58·9	49·2	65·2	44·1	66·3
December ...	52·6	64·8	45·7	54·8	50·1	59·5	49·2	65·5	44·1	65·3
Average....	58·5	64·2	47·7	57·5	49·0	56·9	50·5	61·5	45·3	65·2

Silver = 60·84*d.* per oz. = 100. Rupee = 23·34*d.* = 100.

5. *Remarks on the Prices of Silver and the Rupee.*

(*a.*) *Silver.*

The mints were closed at the end of June, 1893, and silver at once experienced a heavy drop, falling to an average of 27*d.* an ounce on 5th March, 1894. It, however, partially recovered itself, but fell again to $27\frac{1}{4}d.$ on 29th December, 1895. The price then commenced to rise again till it reached $31\frac{9}{16}d.$ on 26th June, 1896, when a fall set in, which continued till August, 1897, in which month it fell to $23\frac{5}{8}d.$ an ounce. The price has since somewhat recovered, and was $26\frac{13}{16}d.$ on the last day of December, 1897.

(*b.*) *The Rupee.*

On the day previous to the closing of the mints, the rupee stood at $15\frac{5}{32}d.$, and afterwards quickly rose to 16*d.*, but fell again gradually, the average of July being 15·64*d.*, August 15·17*d.*, September 15·1*d.*, October 15·13*d.*, November 15·22*d.*, and December, 1893, 15·11*d.* This price was apparently maintained by the fixing of a minimum price for the sale of Council bills by the Secretary of State; the price so fixed on 5th July, 1893, was $15\frac{3}{8}d.$, which was reduced to $15\frac{1}{4}d.$ on 16th August. On 20th January, 1894, the minimum was withdrawn, and the rupee at once commenced a rapid decline till 18th May, 1894, when its price fell to $12\frac{1}{2}d.$, the lowest price on record. A slight recovery then took place, but the average price again fell to 12·8*d.* in December, 1894, and 12·61*d.* in January, 1895, the lowest monthly average on record; a gradual rise then set in, which continued till March, 1896, the average of which month was 14·53*d.* The price then

slightly fell, and remained fairly steady at the lower figure till November, 1896, when it rapidly rose, the average for the month being 15·22*d.* The price fell away again slightly in March, April, May, and June, 1897, but rose again in July, and reached the high average of 15·82*d.* in September. The remainder of the year experienced a slight fall, till in the latter half of December it again rapidly rose, and since the beginning of January, 1898, has approximated 16*d.* The high price in 1897 was no doubt maintained by the suspension of the sale of Council bills, and by the purchase by the Government of silver drafts on India, but on the other hand the year was a famine year, and the price of money in the Indian market was abnormally high, two factors which hampered trade considerably.

6. The following Table V gives the average rainfall index numbers, and the estimated active circulation of the rupee in India:—

TABLE V.—*Rainfall.—Average Fall of Thirty-five Years* = 100. *Circulation*, 1871 = 100.

Year.	Rainfall.	Rupee Circulation.		Year.	Rainfall.	Rupee Circulation.	
	Index Number.	Amount. [000's omitted.]	Index Number.		Index Number.	Amount. [000's omitted.]	Index Number.
		Rx.				Rx.	
1871	98	113,127,	100	1885....	102	144,766,	128
'72	102	111,395,	98	'86....	106	143,720,	127
'73	89	110,719,	98	'87....	104	146,682,	130
'74	105	114,502,	101	'88...	98	148,076,	131
'75	106	110,268,	97	'89...	106	156,261,	138
'76 ...	85	110,899,	98	'90...	104	162,560,	144
'77	87	127,882,	113	'91....	91	161,882,	143
'78	110	130,824,	116	'92....	112	168,055,	148
'79	101	136,076,	120	'93....	120	166,904,	147
'80	90	137,080,	121	'94....	113	161,851,	143
'81	98	135,419,	120	'95....	92	164,907,	146
'82	100	136,068,	120	'96....	86	168,564,	149
'83	99	136,637,	121	'97....	95	172,362,	152
'84	100	138,299,	122				

7. *Remarks on the Rainfall of* 1897.

The index number for the rainfall of 1896 was 86, one point higher than in 1876, and one point lower than in 1877. These two successive years of failure of rain caused the famine of 1877, and the still more serious one of 1878. In 1896 the average for the whole of India was raised to 86 by the plentiful supply of rain during the year in Madras, the Central Provinces, and Bombay, but unfortunately a great deal of this rain, especially in the Central Provinces and Bombay, fell at a time at which it was quite useless for productive purposes, and the actual productive rainfall of the year was therefore probably the lowest on record, and the resultant famine the most widespread known.

The rainfall of 1897 is represented by 95, or 5 per cent. below

the average of thirty-five years, indicating that rain was not plentiful during the year. But though below the average, it came at an opportune time, and the effect has been that the crops are above the average almost throughout India.

The rainfall was as follows :—

Meteorological Divisions.

	Index Number.
1. Punjab Plains	83
2. N.W. Provinces and Oudh	104
3. Rajputana and Central India	83
4. North, West, and Lower Bengal	104
5. Assam and Eastern Bengal	97
6. Central Provinces and Berar	95
7. North Deccan and Bombay	107
8. Hyderabad	74
9. Madras	117
10. Lower Burmah	91
Average	95

8. *Remarks on the Rupee Circulation of* 1897.

The rupee circulation of 1897 shows an increase of upwards of 4 crores as compared with 1896, and is about the same amount in excess of 1892, the year previous to the closing of the mints. This is due to the average monthly cash balance held by Government falling about $2\frac{1}{2}$ crores during the year, and a smaller amount of rupees entering hoards than usual on account of the famine, and so a large amount of rupees coming out of hoards in place of silver bullion deposited in its place, as well as for ordinary expenditure necessitated by the famine conditions.

The actual amount of silver net imported during the year was Rx. 7,905,369. Of this about 1 crore is stated, by Sir Salter Pyne, of Kabul fame, to have entered Afghanistan for coinage into Afghan money. Another half crore may be estimated as the amount exported from India during the frontier war, and the Native States' mintage at under a crore. Ornaments are now almost entirely made out of silver bullion, but the amount so expended in 1897 was obviously very considerably less than in ordinary years, owing to the occurrence of the famine. In a year of plenty it is probable that upwards of 4 crores of silver are now required for the manufacture of ornaments, but the severity of the famine of 1897 must not only have reduced this amount very considerably, but a large quantity of ornaments must have been melted down for sale as bullion, and thus added to the large import. In the three last famine years, 1873-74, 1876-77, and 1877-78, more silver was tendered at the mint for coinage than the amount imported, in 1877-78, the excess amounted to Rx. 2,562,986. The only way therefore to account for the disposal of the large import of silver in 1897, is by accepting the assumption that a large portion of it took the place of rupees in hoards, and it has been estimated that nearly 4 crores were disposed of in this way.

9. The following Table VI gives the imports into, and exports from India of merchandise, with the volume of each, during each calendar year from 1871.

TABLE VI.—*Merchandise.* [000's omitted in amount columns.]

1	2	3	4	5	6	7	8	9	10	11	12	13
	IMPORTS.						EXPORTS.					
Year.	Net Imports, excluding re-Exports.	Converted into Sterling at Average Rate of Rupee of each Year.	Index Number, Rupee Value.	Index Number, Sterling Value.	Index Number, Gold Prices (Sauerbeck).	Index Number, Volume as deduced from Cols. 5 and 6.	Net Exports, excluding re-Exports.	Converted into Sterling at Average Rate of Rupee of each Year.	Index Number, Rupee Value.	Index Number, Sterling Value.	Index Number, Rupee Prices of Exports (see Statement I, Col. 12).	Index Number, Volume as deduced from Cols. 10 and 12.
	Rx.	£					Rx.	£				
1871....	31,009,	30,066,	100	100	100	100	56,777,	55,050,	100	100	100	100
'72....	29,350,	28,310,	95	94	109	86	56,408,	54,410,	99	99	104	95
'73....	30,789,	29,160,	99	97	111	86	52,944,	45,976,	93	84	105	88
'74....	34,868,	32,544,	112	108	102	106	54,489,	50,039,	96	91	112	84
'75 ...	35,333,	32,065,	114	107	96	111	56,422,	51,203,	99	93	101	98
'76....	36,867,	31,092,	119	103	95	108	58,059,	48,963,	102	89	99	103
'77....	38,221,	33,523,	123	111	94	118	62,130,	54,493,	109	99	108	100
'78....	38,073,	31,977,	123	106	87	120	59,477,	49,986,	105	91	111	93
'79....	36,442,	29,837,	118	99	83	116	60,941,	49,895,	107	91	113	93
1880....	48,008,	40,107,	155	133	38	149	71,741,	59,516,	125	108	109	114
'81....	47,977,	39,661,	155	132	85	152	76,380,	63,141,	135	115	103	131
'82....	48,351,	39,930,	156	133	84	154	79,354,	65,533,	140	119	99	141
'83 ...	51,756,	41,836,	167	139	82	164	85,440,	69,064,	150	125	100	150
'84....	53,249,	43,131,	172	143	76	177	81,538,	66,046,	144	120	103	140
'85....	51,099,	39,708,	165	132	72	169	79,626,	61,876,	140	112	97	144
'86....	57,920,	42,016,	187	140	69	183	84,530,	61,320,	149	111	96	155
'87....	57,755,	41,175,	186	137	68	181	86,076,	61,365,	152	111	100	152
'88....	65,513,	44,849,	211	149	70	194	87,677,	60,030,	154	109	104	148
'89....	65,433,	44,658,	211	148	72	189	99,326,	67,790,	175	123	109	159
1890....	67,014,	51,098,	216	170	72	218	98,544,	75,140,	174	136	106	164
'91....	65,895,	47,170,	212	157	72	201	102,029,	73,036,	180	133	108	166
'92....	61,356,	38,961,	198	130	68	172	101,142,	64,225,	178	117	119	144
'93....	68,884,	42,938,	222	143	68	189	102,070,	63,623,	180	116	126	133
'94....	71,125,	39,771,	229	132	63	181	104,721,	58,557,	184	106	120	147
'95....	67,420,	37,306,	217	124	62	171	106,462,	59,909,	188	107	119	152
'96....	73,701,	44,067,	237	147	61	204	104,205,	62,306,	184	113	118	151
'97....	66,625,	42,695,	215	142	62	196	93,654,	60,016,	165	109	119	134

10. *Remarks on Imports and Exports of Merchandise.*

The figures of imports and exports in this statement taken from the official publications will not be found to agree with the figures published in the blue books, as those figures are given for the financial year, whereas the present figures are compiled for the calendar year for purposes of comparison.

(*a.*) *Imports.*

The rupee value of the imports shows a gradual increase from 31 crores in 1871 to 74 crores in 1896, equal to 138 per cent., but the sterling value (and all payments for imports are made in London, and adjusted in sterling) shows an increase of 47 per cent. only between the two years. The increase was not, however, steady throughout the period, and reached 70 per cent. in 1890, and 57 per cent. in 1891, due to the sudden rise in the price of silver in the former year owing to the American currency legislation of that year.

Col. 7 gives the index numbers of the volume of goods imported deduced from the sterling value, and Mr. Sauerbeck's gold prices. The figures show that though in some years the volume increased in the same ratio as the rupee value, yet the general tendency was in the direction of a greater increase in the rupee payment than in the volume received. It is noticeable also that the volume received, the greater portion from England, increased much more rapidly and to a higher ratio than the sterling paid for it. This was the necessary result of the fall in gold prices, but the figures show the effect in a practical form. For example, in 1896 India received double the volume she received in 1871, but paid only 47 per cent. in excess in sterling.

The year 1897 shows an import of 4 per cent. less in volume than in 1896, but the rupee payment was nearly 10 per cent. less.

(*b.*) *Exports.*

The rupee value of the exports, as in the case of imports, gradually increased during the period under review, though not to the same extent, the increase reaching only 84 per cent. between 1871 and 1896, against 138 per cent. in imports. The increase in the sterling value was not regular, nor was it on the whole very marked. It reached 25 per cent. in 1883, 23 per cent. in 1889, 36 per cent. in 1890, and 33 per cent. in 1891, but in no other year was it more than 20 per cent. in excess of 1871. From 1872 to 1879 India received a smaller gold payment than in 1871, and in 1894 and 1895 she received only 6 per cent. and 7 per cent. respectively in excess. But though her sterling receipts increased so slightly, the volume of the goods she exported, as given in Col. 13, deduced from the rupee value, and the average price of her exports increased considerably. From 1871 to 1879 no increase took place, in 1880 the volume was 14 per cent. in excess of 1871, and thereafter the increase varied from year to year between 31 per cent. and 66 per cent., one year up, the next down. The figures show that India received less and less sterling for the same volume of goods exported as the years advanced; for

example, in 1887 her rupee prices of exports stood at the same figure as in 1871, but she exported 52 per cent. excess in volume and received only 11 per cent. excess sterling. In 1895 she exported 52 per cent. excess in volume, and received only 7 per cent. excess sterling.

In 1897 the famine caused a reduction all round, the exports being 11 per cent. less both in volume and in rupee value than in 1896.

11. The following Table VII gives the net imports of gold and silver into India in each calendar year, the total production of the world of both metals, and the percentage of each taken by India:—

TABLE VII.—*Gold and Silver.* [000's omitted in amount columns.]

Year.	Gold.			Silver.					
	Net Import converted into Sterling at Average Rate of each Year, plus Production in India.	Gold Production of World.	Per-centage taken by India.	Net Import.	Volume Received. 1874-93 Average = 100.	Net Import declared Value converted into Sterling at Average Rate of each Year.	Index Number. Gold Value. Average of 1874-93 = 100.	Production of World converted into Sterling at Average Annual Price per oz. in London.	Per-centage taken by India.
	£	£		ozs.		£		£	
1801–70	95,906,	643,935,	14·9	983,252,	....	245,813,	....	432,803,	56·8
'71	2,696,	25,500,	10·6	6,791,	....	1,712,	....	13,234,	12·9
'72	3,002,	24,200,	12·4	21,566,	....	5,419,	....	14,299,	37·9
'73	2,553,	23,600,	10·8	— *358*,	....	— *88*,	....	15,454,	....
	104,157,	717,235,	14·5	1,011,251,	....	252,856,	....	475,790,	53·1
1874	1,613,	22,950,	7·0	19,895,	62	4,834,	76	15,594,	31·0
'75	1,756,	27,700,	6·3	11,913,	37	2,823,	45	14,173,	19·9
'76	— *314*,	22,540,	....	19,796,	62	4,351,	69	13,957,	31·2
'77	719,	23,830,	3·0	57,438,	179	13,117,	207	15,598,	84·1
'78	83,	22,020,	0·4	15,495,	48	3,393,	54	15,816,	21·5
'79	343,	21,400,	1·6	31,309,	97	6,686,	105	16,058,	41·6
'80	2,769,	22,130,	12·5	19,402,	60	4,224,	67	16,655,	25·4
'81	3,943,	21,150,	18·6	11,291,	35	2,432,	38	17,510,	13·9
'82	4,394,	20,500,	21·4	37,411,	116	8,047,	127	18,841,	42·7
'83	4,169,	20,640,	20·2	18,285,	57	3,852,	61	18,813,	20·5
'84	4,332,	20,830,	20·8	29,411,	92	6,203,	98	18,181,	34·1
'85	1,917,	21,250,	8·1	41,151,	128	8,336,	131	18,921,	44·1
'86	1,470,	21,430,	6·9	26,265,	83	5,022,	79	18,053,	27·8
'87	2,263,	21,500,	10·5	31,992,	100	5,948,	94	18,238,	32·6
'88	1,905,	21,985,	8·7	32,674,	102	5,838,	92	19,242,	30·3
'89	3,440,	23,835,	14·4	38,807,	121	6,903,	109	22,092,	31·2
'90	4,545,	24,260,	18·7	62,603,	195	12,440,	196	26,230,	47·4
'91	3,485,	26,700,	13·1	31,334,	98	5,883,	93	25,910,	22·7
'92	— *1,571*,	29,900,	....	44,501,	138	7,381,	116	25,379,	29·1
'93	1,581,	32,600,	4·9	61,419,	191	9,116,	144	24,652,	37·0
	42,842,	469,150,	9·1	642,692,	....	126,829,	....	379,913,	33·4
1894	— *1,717*,	36,765,	....	38,212,	119	4,607,	73	20,222,	22·8
'95	1,092,	41,000,	2·7	26,772,	83	3,333,	53	21,065,	15·8
'96	2,649,	45,000,	5·9	27,843,	87	3,567,	56	20,628,	17·3
'97	4,185,*	†46,000,	9·1	39,516,	123	5,066,	80	21,000,†	24·1

* Production in India estimated. † Approximate.

12. *Remarks on the Import of the Precious Metals.*

The figures in this statement will be found interesting at the present time. The net import during the earlier years from 1801 to 1835 has been compiled from the official returns when available, and when not available, that is to say when the returns do not separate gold from silver, from the coinage returns. The figures, therefore, are in a few cases only approximate, but may be accepted as very nearly correct.

(*a.*) *Gold.*

The figures for the net import into India during the twenty years from 1874 to 1893, commencing with the first year after the demonetisation of silver in Europe, and ending with the year in which the mints of India were closed, do not give any clear indication on what principle the import trade was carried on, or what the ordinary requirements of India are. From 1874 to 1879 the receipts were comparatively small, in the next four years India absorbed one-fifth of the production of the world, after which the amount retained again fell off till in 1890, when India took 4,500,000*l.*, equal to 18½ per cent. of the production of the world. The aggregate amount retained in the country during the twenty years represented 9 per cent. of the production of the world, distinctly a large amount for a country with a silver standard. The large absorption of the metal in 1897, a severe famine year, is curious to note.

From 1801 to 1897 the total production of the world amounted to 1,355,150,000*l.* of which 153,208,000*l.* was absorbed by India, representing 11·3 per cent. of the whole.

(*b.*) *Silver.*

From 1801 to 1873 India absorbed 53 per cent. of the whole production of silver of the world, but during the twenty years from 1874 to 1893, although silver was demonetised in Europe and partly in the States, she only net imported 33·4 per cent. of the production. This proportion, however, represented a very much larger import in volume than in the earlier years, as the production of the world steadily increased up to 1890. As in the case of gold, so with silver, nothing on an examination either of the quantity or value imported indicates the principle on which the trade was carried out, though the high or low import in certain years can be accounted for. Taking the average of the twenty years, we find that in quantity silver was imported in excess of the average in 1877, 1882, 1885, 1889, 1890, 1892, and 1893; in 1890 and 1893 it was nearly double the average. In 1887 and 1888 the average amount was imported, and in the remaining years less than the average, the years 1875 and 1881 showing 63·3 and 65 per cent. respectively below the average. In the seven years 1887 to 1893, the import in quantity more than equalled the import of the previous twelve years. In sterling value the variations were very much less, except in the years 1877, when the average was more than doubled, and 1890, when it was nearly doubled.

It is noticeable that in 1877, a year of acute famine, the

rainfall having failed both in 1876 and 1877, the heaviest import of silver in value during the whole period was received, though in weight it was slightly exceeded by the imports of 1890 and 1893. The import of 1897 was exceeded in weight only by the years 1877, 1885, 1890, and 1893, but in 1897 the mints were closed to coinage, whilst in the other years given they were open.

From 1801 to 1897 the total production of the world amounted to 938,618,000*l.*, of which India absorbed 396,258,000*l.*, representing 42·2 per cent. of the whole.

Part II.

13. In the paper published in the Society's *Journal* for March, 1897, the following sentence appeared in the introductory paragraph: "No attempt has, however, hitherto been made to deal with the course of silver prices." This sentence should be read: "no attempt has, however, hitherto been made to deal with one set of index numbers for silver prices for all India." The course of silver prices of a number of commodities taken singly have for some time past been worked out year by year by Mr. J. E. O'Conor, C.I.E., director-general of statistics, and published in the official volume of "Prices and Wages in India," and the prices shown there were in many instances made use of in the compilation, as explained in Section III of the paper.

14. *Method of Construction of Tables.*

The method of construction of the Index Number of Silver Prices was fully explained in the *Journal* of March, 1897, to which reference is invited. Briefly, the procedure adopted was first to ascertain the relative importance of each article of production and manufacture in India, based on the figures of 1893, and in fixing the index numbers for each month and year for the whole of India, one or more prices at different important places of production were taken for each article in proportion to its relative importance to the whole. The year 1871 was taken to represent 100, because the index number of Mr. Sauerbeck's Gold Prices was 100 in that year, and silver approximated to it (99·7). Statisticians generally appear to have approved of the method adopted, but since the issue of the figures in the *Journal* of March, 1897, the American proposals for the establishment of bimetallism have been made, and in the course of the discussion that followed, much was said regarding the course of silver prices in India. It was argued that the plan adopted is incorrect, and that the proper way to treat the subject is to deal only with siver prices at the ports of export, because it is there that the prices are influenced by the "higgling of the market," and to ignore prices in the interior, and certain exports were accordingly quoted as an indication that till quite recently silver prices have fallen rather than risen. It is difficult to understand by what process of reasoning this argument was arrived at, or why markets influenced by a consideration of gold prices should be selected as exhibiting the natural course of silver prices. Certain authorities have

already shown its falsity, but in the event of any future discussion arising on the point, it is proposed to explain here in greater detail the factors which bear on this question, and which should be considered in arriving at a decision. Let us first briefly examine the principal exports from India. Taking the year 1890-91 as a fair example of the proportion of each export in each year, we have the following figures, Table VIII:—

TABLE VIII.—*Exports from India*, 1890-91.

1 Article.	2 Value.	3 Number of Index Numbers Taken.	4 Ports of Export at which Prices Taken.
	Rx.		
Coffee	1,463,787	1	Madras.
Cotton, raw	16,533,943	3	Bombay.
,, goods	9,497,669	2	,,
Opium	9,261,814	2	1. Calcutta. 1. Bombay.
Indigo	3,073,125	1	Calcutta.
Myrabolams	300,733	1	,,
Rice	12,773,628	3	2. Calcutta. 1. Rangoon.
Wheat	6,042,426	2	1. Bombay. 1. Kurrachee.
Hides and skins	4,698,772	1	Calcutta.
Jute, raw	7,602,010	2	,,
,, goods	2,481,962	1	,,
Lac	781,449	1	,,
Oils	598,825	1	,,
Saltpetre	380,062	1	,,
Seeds	9,345,991	2	1. Calcutta. 1. Bombay.
Silk, raw	561,093	1	Calcutta.
,, goods	267,858	1	,,
Spices	523,809	1	Madras.
Sugar	615,221	1	Calcutta.
Tea	5,504,293	2	,,
Wood	562,563	1	Rangoon.
Wool, raw	1,593,003	1	Bombay.
	94,464,036	32	
Others	5,763,312		
Grand Total	100,227,348		

Adopting the same principle as that of Mr. Sauerbeck in his Gold Prices, the number of index numbers to be given to each article has been assigned as shown in Col. 3, giving an aggregate of thirty-two in all. The prices of each have then been taken at the ports named in Col. 4, and the result for the whole series of years is entered in Col. 12 of Table I. It will be noticed that the numbers indicate that export prices were on the whole fairly stable from 1871 to 1888, except in 1874, 1878, and 1879, the result of famine years, and that since 1888 there has been a tendency to a rise.

But though these figures in some cases, though not in all, may be useful for external trade purposes, they are quite useless as an indication of silver prices in India.

15. The exports include coffee (1), opium (2), indigo (1), tea (2), representing Rx. 19½ millions, with six index numbers out of thirty-two. These exports are grown almost exclusively for export purposes; they are very little used within the country, their price is solely dependent on the supply and demand in countries *outside* India, and they should be properly classed as articles regulated by gold prices only, and be included with those commodities and not with silver ones. This applies equally to opium, as the adjustments between India and China are made in England. Of the total production of opium between 1872 and 1891, 94 per cent. was exported, and about the same proportion of indigo and tea.

The exports also include raw jute (2), hides and skins (1), and seeds (2), aggregating a value of Rx. 21,646,000, all to some extent monopolies as an item of export of India, but they also are produced or prepared for export purposes, and their price has therefore to be fixed in accordance with the price in gold standard countries, which is regulated by the supply and demand of the commodity and of money (gold). The prices of both jute and seeds have risen since 1888, but their rise is due to the demand having been in excess of the supply, though as both are in limited use in India, silver has also played a small part in fixing the prices.

The exports also include raw cotton (3), cotton goods (2), jute goods (1), and raw wool (1), aggregating a value of Rx. 30,107,000. All these are in competition with gold standard countries, and the prices must be regulated accordingly, otherwise the export would cease. The first three are in considerable use in the country, but the last but little used. The price of the manufactured goods has also been very materially reduced by improvements in machinery and in the skill of the native workmen, two points quite unconnected with the currency factor.

Rice and wheat to the value of Rx. 18,800,000 are also included, the price of both of which have risen.

The commodities named represent 90 per cent. of the exports, and it is needless to touch on the others.

16. From these remarks it is evident that in discussing silver prices, coffee, opium, indigo, tea, and raw wool, representing 21 millions Rx., should be altogether omitted, whilst the other items, except rice and wheat, should receive only a minor place. The total exports represent only some 9 per cent. of the value of the production; and if we eliminate the five commodities named above, the proportion is about 7 per cent. This shows of what little importance the exports are as compared with the internal trade of the country. If it cost each of the 250 millions of India Rs. 4⅕ a month in 1892 to feed on precisely the same food as it cost Rs. 3 a month to feed on in 1871, it is of very little consequence to them whether the price of opium and tea, &c., which the vast bulk make no use of whatever, have fallen or not; and in dealing with silver prices it is evident that only such commodities should be considered as are bought and sold within the country and with the currency of the country, and are affected up or down

by the volume of that currency, and not by their demand in gold standard countries, where different conditions exist, and where their price is affected by other gold prices.

17. It is apparently admitted by all that silver prices in the interior of India have risen, but it is argued that this rise is due to causes other than the conditions of the currency, mainly to the extension of railways. A study of the figures in the *Journal* of March, 1897, will however show that the course of prices of the important food-grains since 1871 has not differed much in places through which the railways ran in 1871 from places through which it has since been introduced, and from places through which it does not run to the present day. Indeed, in some cases the railway has had the effect of causing a smaller rise in price than in places through which it does not run.

18. It is true that the rise of prices at the ports of export is shown not to have been so great as in the interior, but in inquiring into the cause two points must be considered, first, the cost of transit from the place of production to the port of export; second, the accuracy of the figures given at the port of export.

As regards cost of transit, that of railway transit has been in a gradual course of decrease for the past twenty-five years; in 1871 100 maunds of wheat cost Rs. 78 to convey from Cawnpore to Calcutta, and in 1890 the cost was only Rs. 48. In 1871 the price of 100 maunds of wheat landed in Calcutta was Rs. 244, index number 100. If the selling price in Cawnpore had remained the same in 1890, it could have been landed in Calcutta for Rs. 214, index number 88, or a drop of 12 per cent. But as a matter of fact the price in Calcutta in 1890 was Rs. 300, index number 123, that is to say a rise of 23 per cent., although the cost of transit had fallen 12 per cent., making the actual rise 35 per cent., which those who trust to export prices without inquiry put at 23 per cent.

19. As regards the accuracy of the figures given at the ports, the Government blue book quotes the prices of wheat, for which the following index numbers are given, at the places named. The price of 1876, the first year in which the export trade in wheat fairly commenced, is taken as 100. Bombay is a port of export, and the remaining places are centres of the wheat trade. The railway ran through all the stations given in 1876:—

TABLE IX.

Stations.	1876.	1881.	1885.	1891.	1893.
Bombay	100	106	102	120	119
Jubbulpore	100	126	125	196	172
Delhi	100	128	110	176	149
Marzapur	100	126	113	182	174
Cawnpur	100	114	104	160	149
Meerut	100	126	116	185	160

These figures show how slight the variation in the stated price at Bombay has been compared with the prices at the five inland

centres. This would have been possible if the railway charges from the centres of trade to Bombay had varied sufficiently to account for the difference. But this has not been the case; and taking Jubbulpore, the nearest centre to Bombay, the prices compare as follows:—

TABLE X.—100 *Maunds of Wheat.*

	1876.	1881.	1885.	1891.	1893.
	Rs.	Rs.	Rs.	Rs.	Rs.
Price in Bombay	344	364	351	412	409
„ Jubbulpore plus rail to Bombay	226	257	241	355	318
Profit by conveyance to Bombay (percentage)	118	107	110	57	91

The inference to be drawn from these figures is that the prices given in one or other of the two places are incorrect, and as the Jubbulpore prices agree generally in rise and fall with the other places in the interior, the figures of a few only of which have been given above, the presumption is that the Jubbulpore prices are correct. This is further borne out if we consider the prices of Bombay and Jubbulpore wheat landed in England. Unfortunately the Indian official blue book does not give the annual average wholesale prices of wheat, it gives only the January and July prices in Bombay. We must therefore take the retail prices for our comparison, which appear to be approximately nearly 20 per cent. in excess of the wholesale price, but on the other hand about 5 per cent. should be added to cover packing, shipping, insurance, and middlemen charges, though these charges are less now than formerly.

On this basis we have the following figures for wholesale prices:—

TABLE XI.—100 *Maunds of Wheat.*

	1876.	1881.	1885.	1891.	1893.
	£	£	£	£	£
1. Price at Bombay plus steamer to London	34·9	35·5	28·4	31·0	25·5
2. Price at Jubbulpore plus rail to Bombay plus steamer to London	27·6	28·9	22·5	28·1	21·1
3. Selling price of Indian wheat in English market	35·2	34·8	25·8	28·9	20·7

Rupees have been converted into sterling at the average rate of the rupee at six months' sight, during the months of May to August. From these figures it appears that except in 1876 it would not have paid to export wheat from Bombay, and indicates that the prices given there are not the true export prices.

20. Wheat is an example of an export not sold at the port of

export, but if we inquire into tea, which is sold by auction in Calcutta, the published prices also appear inexplicable. In the Government blue book it is shown that the prices of Pekoe, Souchong, and Congou respectively fell 40, 30, and 33 per cent. between January, 1893, and January, 1894. About 96 per cent. of this tea is exported to Great Britain, and a reference to Mr. Sauerbeck's Gold Prices of Commodities shows that the average price of tea imported into Great Britain fell under 2 per cent. in 1894 as compared with 1893. This great difference speaks for itself, though it is possible that the mistake may be in the English, and not in the Indian figures. It may be added that the average price of the rupee was 14·75*d.* in January, 1893, and 14·78*d.* in January, 1894, and exchange did not therefore account for the difference.

It is quite certain, however, that tea, like certain other articles of export, has fallen considerably in price since 1871, but the whole of this reduction does not necessarily represent a reduction in the real silver price of the commodity, because the transit charges from the place of production to the place where sold by auction have been gradually reduced to a very great extent, and if this condition was eliminated, *i.e.*, if he could see the price received less the amount paid for transit, it would be found that tea has not fallen in price to as nearly a great an extent as appears on the surface.

21. It must be remembered that the reduction in the price of transit is quite unconnected with currency considerations, and though a very important factor in the price of exports, it makes no difference whatever to prices in local markets, where the consumption is almost entirely of local production.

These remarks having reference to wheat and tea are generally applicable to most other exports, though it is very evident that the exigencies of trade have in most cases prevented a smaller rise in prices of articles exported than of those not ordinarily sent out of the country in any quantity, and in some cases have actually caused a fall.

22. On a consideration of the points put forward, the figures appear to show that silver prices solely under the influence of the currency of the country have risen to a greater extent than would appear from the general index numbers worked out, and the inference to be derived from a study of the whole question is, that silver has depreciated in India considerably more than gold has appreciated in gold standard countries.

VI.—*Notes on Economical and Statistical Works.*

Fenn on the Funds. Sixteenth edition. 578 pp. 8vo. 15*s.* Effingham Wilson, 1898.

In the new edition of this well-known and highly esteemed work of reference, the new editor, Mr. S. F. Van Oss, has, as he

states in his introduction, done little beyond bringing the work up to date. Some omissions have been made, among which may be specially mentioned the rules of the London Stock Exchange. We agree with the editor that the greater bulk which the book would necessarily have were they again included, would be a disadvantage not compensated by the convenience of having them here. They can be more conveniently consulted separately from the matter properly belonging to Fenn on the Funds.

The editor makes some very pertinent remarks in his introduction on the growth of National Debts. Such reflections are eminently appropriate in connection with the facts with which the pages of the book are filled. The lack of sufficient restraint on States tempted to become defaulters, the neglect of making regular and adequate provision for redemption of debt in the vast majority of instances, the temptation afforded by ease of borrowing to States which have before them vast schemes of industrial development, and the easing of the burden of war resulting from the practice of borrowing and leaving it to future generations to repay the loan:—to name these subjects is to indicate what serious questions are bound up with the subject of National Debts, and the editor has done well to direct attention to them. He rightly thinks they deserve fuller treatment than his introduction permitted.

Customs Tariffs of the United Kingdom from 1800-97. [C–8706.] 7*s.* 6*d.* 1897.

In a bulky volume of some 900 folio pages, Mr. Pittar has provided a history of the customs tariffs of the United Kingdom during the present century. He has done more, for he has given an outline of the history as far back as 1660, and has, in some matters, included information of important particulars of much earlier date. Tabular information, besides such as relates to many of the details, is also given in regard to the yield of customs revenue and the values (official, or other, according to the mode of compiling the record) of imports and exports; the latter two items from 1699, the former from 1692. On the other hand, bulky as is the volume now issued, it has been judged best to give, for dates between 1800 and 1823, only abstracts of the tariffs for a few particular dates. Such an exhaustive record for Great Britain, and also for Ireland, as is actually given for later dates would, if given for this period, have involved the preparation of at least as large an additional volume as that in which so much valuable information is now issued. In about 40 pages of introduction Mr. Pittar gives an abstract of the most important features of the customs duties since 1660, and, in the course of the record, takes opportunity to point out the extremely complicated condition of affairs which existed before Pitt's measure of consolidation in 1787. The number and variety of different payments due on one and the same consignment of goods made it impossible for any but a skilful expert—in practice, the custom house officer—to determine what was payable. A renewed growth of complications during the war period at the end of the century made what was still complex, despite the

consolidation, again very confused, and repeated measures of consolidation were necessary to remedy the evil. The extent of the contrast between the present and former times is indicated by the fact that the tariffs of the last ten years are given in 8 pages, while those of the two years 1823-24 and 1824-25 require 118 pages, the tariffs of these years being simple in comparison with earlier tariffs.

One point of very special interest dealt with in the introduction is the restraints placed upon Irish trade in general, and with the United Kingdom in particular. Even the general outline of the methods employed to strangle Irish industry where it threatened to compete with that of England is by no means widely known, and it deserves very careful attention.

A synopsis of the older laws relating to importation, exportation, and the regulation of the customs, is given in an appendix; and an index of articles now, and formerly, subject to duty shows the dates when the various duties ceased to be levied in the case of all not now dutiable.

Die Statistik der Edelmetalle. By Ernst Biedermann. 84 pp. 4to. Berlin: Wilhelm Ernst und Sohn, 1898.

The purpose of the author appears to be twofold, on the one hand to gather together such facts as may serve to supplement Soetbeer's well-known "Materialien," by adding figures for the ten years 1886-95 to those which Soetbeer had supplied for nearly four centuries preceding this period. In this part of the work the figures of the best authorities are quoted, and opportunity is afforded for comparing their results when these show differences of importance. The ground has been covered before, but there is a convenience in having the results gathered together in a form handy for reference. The three coloured diagrams which set forth the facts given tabularly in the volume are somewhat crowded, and in consequence can hardly succeed in enabling the general results of the tables to be quickly and clearly grasped. Some points stand out clearly, but not nearly all which are represented.

In addition to a compilation of statistics of the precious metals, the volume contains a discussion of the bearing of these statistics on the question of a proper basis of valuation. The views of the adherents of the gold standard and of those who advocate the adoption of bimetallism by international agreement are briefly set forth. This part of the volume may be interesting, but there has been abundant opportunity to tire of such expositions, no matter from which side they proceed or to which side they lean. Fortunately the arrangement of the statistical material occupies four-fifths of the volume.

According to the figures in these tables [Tabelle IVA, p. 23], approximately nine-tenths of the gold produced in the ten years 1886-95 has been accounted for in coinages, even after deducting from coinages the amount of recoinages, and similarly two-thirds of the silver production is represented by new coinage, the monetary value of each of these amounts of new coinage being about

250 millions sterling. In another table (p. 63) an estimate of the division of the production assigns some 45 per cent. of the gold produced in the ten years to non-monetary uses, and rather over one-half of the silver. The fact of minting clearly does not definitely assign the metal to monetary use, if this estimate may be presumed to be even roughly accurate, and this is lost sight of by some controversialists. It is also worthy of note that, comparing the first five with the second five years of the period specially dealt with, while the gold production increased by 46 per cent., the amount estimated as devoted to non-monetary uses fell off to about three-fifths in the second half of what it was in the first half of the ten years. This is of course capable of two opposite interpretations; we merely note the fact as being the result of a careful estimate.

Bevölkerungslehre und Bevölkerungspolitik. By Arthur Freiherr von Fircks. 492 pp. 8vo. 13·50 marks. Leipzig: C. L. Hirschfeld, 1898.

We have previously noticed one of the volumes of the late Dr. Kuno Frankenstein's series *Hand- und Lehrbuch der Staatswissenschaften*, of which the general editor himself was the author. The series is continued under a successor in the editorship, and Freiherr von Fircks's volume on "Population" is the latest to appear. So far as concerns the part dealing with demographic statistics, the treatment is fairly complete. In many places the comparative statistics which one expects in a work of this character are curiously lacking, and this without obvious reason, as the omissions are not systematic. Some instructive discussions of difficulties attending enumerations under special heads are included, and one further feature is an examination in some detail of the 1895 Occupation Census of Germany. Among other points arising in connection with the statistics dealt with, a brief discussion on the determination of sex will supply a few facts of interest to some, in view of the attention recently turned to this question.

In the second part of the volume some questions of practical politics arising out of matters treated statistically in previous pages come up for discussion. Some gloomy forebodings are suggested by calculations of how great the population of the principal States of the world will be by 1950, if they increase meanwhile as rapidly as they have done for the past quarter of a century. It does not appear that much is gained by such artificial elaboration. Populations are growing, and growing fast, and the seriousness of the problems presented is not decreased even if the rate of growth of numbers be a diminishing one. Naturally the question of emigration and of colonial policy arises. It would appear desirable, however, to base a policy on grounds less doubtful than those covered by the statement that "the United States of America, the British Empire, and the Russian Empire close their markets more and more against the importation of foreign products, and other countries will soon follow in their train." The most important part of the British Empire does not act as here

described, and to assume that protective tendencies will triumph more and more seems hasty, though present appearances seem to favour that conclusion: the contrary conclusion has been drawn from the same facts. In any case the statement is wanting in accuracy, and contains a doubtful prophecy attached to a defective description of the actual situation.

An extensive bibliography of nearly 100 pages is a valuable feature of the book.

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May—Essai sur les variations du Taux de l'Escompte: *F. Nitti.*

GERMANY—

Archiv für Soziale Gesetzgebung und Statistik. Band xii, 1898—

Heft 2—Zur Revision der deutschen Seemannsordnung: *Dr. B. Nocht.* Zur Geschichte der Zündhölzchenfrage in der Schweiz und zur Beurteilung der neuen Gesetzvorlage: *Dr. F. Erismann.* Das Sweatingsystem in den Vereinigten Staaten: *Florence Kelly.* Die dänische Arbeiterversicherung, insbesondere das Unfallversicherungsgesetz vom 7 Januar, 1898: *C. Trap.*

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Archiv für Soziale Gesetzgebung und Statistik, Band xii—Contd.

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Jahrbuch für Gesetzgebung, Verwaltung, &c., 1898—

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Jahrbücher für Nationalökonomie und Statistik, 1898—

Heft 3—Ueber frühzeitige Heiraten, deren Vorzüge und Nachteile: *Fr. Prinzing.* Die wirtschaftl. Gesetzgebung d. deutschen Bundesstaaten im Jahre 1897: *G. Maas.* Ein ungarischer Feldarbeitergesetzentwurf: *J. Bunzel.* Die Brotpreise in Berlin im Jahre 1897: *E. Hirschberg.*

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Vierteljahrshefte zur Statistik des Deutschen Reichs. Heft 2, 1898—Die Produktion der Bergwerke, Salinen und Hütten während des Jahres 1897. Zur Statistik der Krankenversicherung (1896 und 1891-96). Verkehr im Kaiser Wilhelm-Kanal während 1897-98. Zur Volkszählung 1895. Flacheninhalt der Staaten und Landestheile. Bevölkerung in Stadt und Land. Zur Produktions-Statistik.

Zeitschrift für die gesammte Staatswissenschaft, 1898—

Hefte 1 *und* 2—Die Kaufkraft der Rupie. Ein Beitrag zum Kampfe um die Währung: *Dr. P. Arndt.* Die Gewinnbeteiligung, ihr Einfluss auf den Unternehmergewinn und auf die Beziehungen zwischen Arbeiter und Arbeitgeber: *Dr. R. Einhauser.*

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AUSTRIA—

Statistische Monatschrift, 1898—

January—Ernte-Ergebnisse der wichtigsten Körnerfrüchte im Jahre 1897. Die vi Session des internationalen statistischen Instituts in St. Petersburg.

February and March Heft—Das sociale Connubium in den österreichischen Städten: *K. T. v. Inama-Sternegg.* Die Sterblichkeit in den grösseren Städten Oesterreichs im Jahre 1897: *Bratassević.*

ITALY—

Giornale degli Economisti, 1898—

May—Esame critico dei principii teorici della cooperazione: *M. Pantaleoni.* Una lotta operaia epica: lo sciopero dei meccanici inglesi: *Dalla Volta.*

June—Gli Italiani a Chicago: *A. Bertolini.*

Rivista Italiana di Sociologia. March, 1898—Le combinazioni simpatiche in demografia: *R. Benini.* Definizione e classificazione della sociologia e delle scienze sociali: *R. de la Grasserie.* La schiavitù e la questione dei neri negli Stati Uniti: *A. Bosco.*

RUSSIA—

Bulletin Russe de Statistique financière. 1898. *Nos.* 1—3. Production de l'or en Russie. Production du cuivre en Russie (65 années). Répartition geographique de la production de l'or pendant les 2 dern. années. Classement, par ordre d'importance, des 344 raisons sociales qui produisent une valeur annuelle de plus de 5,000 francs.

SWITZERLAND—

Journal de Statistique Suisse. 1898—

Lief. 2—Protokoll der Jahres- Versammlung des Verbandes schweizerischer amtlicher Statistiker und der schweizerischen statistischen Gesellschaft, 1897, in Basel. Protokoll der Jahressitzung der schweizerischen statistischen Gesellschaft. De la connexion qui existe entre les "états psychiques" et les conditions météorologiques générales du milieu: *Dr. A. Mercier.* Was Statistik ist: *C. Mühlemann.*

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VII.—*Quarterly List of Additions to the Library.*

Additions to the Library during the Quarter ended 15th June, 1898, *arranged alphabetically under the following heads:*—(a) *Foreign Countries;* (b) *India and Colonial Possessions;* (c) *United Kingdom and its Divisions;* (d) *Authors, &c.;* (e) *Societies, &c.* (*British*); (f) *Periodicals, &c.* (*British*).

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Antecedentes administrativos de Correos y Telegrafos, 1895-96. Maps and diagrams. 8vo.	Mr. J. Scott Keltie
Commerce extérieur argentin. Année 1898. No. 97	The Director-General of Statistics
Higiene. Anales del Departamento Nacional de. (Current numbers)	The Department
Buenos Ayres (*City*). Monthly Return of Municipal Statistics. (Current numbers)	The Municipal Statistical Bureau
Austria-Hungary—	
Arbeitseinstellungen und Aussperrungen im Gewerbebetriebe in Österreich während 1896. 8vo.	The Statistical Department, Ministry of Commerce
Arbeitsvermittlung in Österreich. 4to. 1898	
"Austria." Archiv für Gesetzgebung und Statistik auf den Gebieten der Gewerbe, des Handels und der Schiffahrt. (Current numbers.) 8vo.	
Ausweis über die monatl. Durchschnittspreise von Weizen, Korn, Gerste, Hafer, und Mais in Marktorten. (Current numbers.) Sheets	The Central Statistical Commission
Bewegung der Bevölkerung im Jahre 1895	
Consulats-Behörden. Jahresberichte der k. und k. österr.-ungar. (Current numbers.) 8vo.	The Statistical Department, Ministry of Commerce
Handel. Statistische Übersichten betreffend den auswärtigen, des österr.-ungar. Zollgebiets. (Current monthly numbers)	

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Rechtspflege. Ergebnisse der Civilrechtspflege, 1894. Ergebnisse des Concursverfahrens, 1894 ..... Sparcassen. Statistik der, für 1895 ..... Statistische Monatschrift. (Current numbers)	The Central Statistical Commission
Bohemia. Mittheilungen des Statistischen Bureau des Landesculturrathes, für das Jahr 1896-97.	The Statistical Bureau
Vienna— Armenpflege im Wiener Armenbezirke. 8vo. 1888 Statistik der Wahlen für den Gemeinderath . . . in 1861-80. 8vo. 1880 ..... Wohn-Verhältnisse in Wien. Ergebnisse der Volkszählung, 31 Dec. 1890. 8vo. 1893	The Registrar-General of England
Brünn— Statistischer Wochenbericht . . . der Landeshauptstadt Brünn. (Current weekly numbers)	The Burgomaster
Summarischer Bericht der Handels- und Gewerbekammer in Brünn während 1897. 8vo.	Sir Rawson W. Rawson, K.C.M.G.
Prague. Bulletins hebdomadaires et trimestriels de la ville et communes-faubourgs. (Current numbers)	The Municipal Statistical Bureau
Belgium—	
Bulletin de la Commission Centrale da Statistique. Tome xvii, années 1890-96. (Contents): Table de mortalité ou de survie: *M. Leclerc.* Mouvement de la population en 1890. Salaires et budgets onvriers: *M. Nicolaï.* Bulletins de statistique démographique et médicale (with separate album*): *Dr. Janssens.*) Diagrams, 4to. 1897 ..... *Album de Statistique Graphique, Démographie et Hygiène de Bruxelles. 4to. 1897	Sir Rawson W. Rawson, K.C.M.G., C.B.
Chemins de Fer, Postes, Télégraphes, Téléphones et Marine. Compte rendu des opérations pendant 1895. Maps, fol.	Mr. J. Scott Keltie
Commerce spécial avec les pays étrangers en ce qui concerne les principales marchandises. Bulletin mensuel du. (Current numbers.) 4to.	The Bureau of General Statistics
Mines de Belgique. Annales des, Année 1898. Tome iii, livraison 2. Plates, 8vo.	The Administration of Mines
Travail de nuit des ouvrières de l'industrie dans les pays étrangers. (France, Suisse, Grande-Bretagne, Autriche, Allemagne). Rapport, 8vo. 1898 ..... Travail. Projet de loi sur le contrat de Travail. Fol. 1898. (Chambre des Représentants, No. 76) ..... Travail. Projet de loi sur la réparation des dommages résultant des accidents du travail. Fol. 1898. (Chambre des Représentants, No. 151) .... Travail. Revue du Travail publiée par l'Office du. (Current monthly numbers.) 8vo.	The Belgian Labour Department
Brussels— Annuaire Démographique et Tableaux Statistiques des Causes de Décès. 36e année, diagrams ..... Bulletins hebdomadaires et trimestriels de statistique démographique et sanitaire. (Current numbers)	Dr. E. Janssens

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Mouvement commercial avec les pays étrangers. Mouvement de la navigation par ports. Prix moyens dans les principales villes. (Current monthly numbers.) La. 8vo.	The Statistical Bureau
China—	
Customs Gazette. Oct.—Dec., 1897	Sir Robert Hart, Bart., G.C.M.G.
Lighthouses, light-vessels, &c. List for 1898. Maps	
Medical Reports for half-years ending 30th Sept., 1896, and 31st Mar., 1897. Plates	
Denmark—	
Communications de Statistique. 4e Série. Tome 2. (1, Subventions à la vieillesse en 1895 et 1896. 2, Prix des Céréales en 1897. 3, Récoltes en Danemark, 1875-96. 4, Importation et exportation en 1897. 5, Industries du Danemark, &c.). 8vo. 1898	The Royal Danish Statistical Bureau
Nationalökonomisk Tidsskrift, 1898. (Current numbers)	The Danish Political Economy Society
Egypt—	
Commerce extérieur. Bulletin mensuel du. (Current numbers)	The Director-General of Customs
Finances. Compte général du Gouvernement Égyptien pour l'Exercice 1897. Fol.	Sir Elwin M. Palmer, K.C.M.G.
Statistical Returns, 1881-97. Diagrams. 8vo.	
Sanitaires, &c. Bulletin hebdomadaire de l'Administration des Services. (Current numbers)	The Health Department
Institut Egyptien. Bulletin. 3e Série, No. 8. Année 1897. Plates, 8vo.	The Institute
France—	
Agriculture. Bulletin du Ministère de l'. Année 1898. (Current numbers)	The Ministry of Agriculture
Budget Général de l'Exercice 1898. 13 parts, 4to. 1897	Mr. J. Scott Keltie
Chemins de Fer Français. Statistique des, au 31 Dec., 1896. Documents principaux	The Ministry of Public Works
Commerce de la France. Documents Statistiques. (Current monthly numbers)	Purchased
Commerce de la France avec ses Colonies et les puissances étrangères pendant 1895. Tableau général du, La. 4to.	Mr. J. Scott Keltie
Finances, Ministère des. Bulletin de Statistique et de Législation comparée. (Current monthly numbers)	The Ministry of Finance
Travail. Bulletin de l'Office du. (Current monthly numbers.) 8vo.	The French Labour Department
Travail. Associations ouvrières de production. 8vo. 1897	
Travail. Salaires et durée du Travail dans l'Industrie française. Tome iv, Resultats généraux et Album graphique. 2 vols., 8vo. 1897	

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Saint Pierre et Miquelon. Annuaire des Isles pour 1896. 8vo.	
Dictionnaire du Commerce, de l'Industrie, et de la Banque, publié sous la direction de Yves Guyot et A. Raffalovich. Livr. 1. 8vo.	Purchased
Économiste Français. (Current weekly numbers)	The Editor
Journal des Économistes. (Current monthly numbers)	,,
Monde Économique. (Current weekly numbers)	,,
Polybiblion. Revue Bibliographique Universelle. Parties Littéraire et Technique. (Current monthly numbers)	,,
Réforme Sociale. (Current numbers)	,,
Rentier. Journal Financier Politique. (Current numbers)	,,
Revue d'Économie Politique. (Current monthly numbers)	,,
Revue Géographique internationale. (Current numbers)	,,
Revue de Statistique. Recueil hebdomadaire de documents économiques, commerciaux, industriels, agricoles. (Current numbers.) 8vo. Paris, 1898	The Publisher
École Libre des Sciences Politiques. Annales. (Current numbers)	The Institution
Musée Social. Circulaires. (Current numbers.) 4to.	,,
Société de Statistique de Paris. Journal. (Current monthly numbers)	The Society
L'affaire Dreyfus. Le procès Zola . . . 1898. Compte-rendu sténographique "in extenso" et documents annexes. 2 vols., 8vo. Paris, 1898	M. Yves Guyot
Germany—	
Deutsches Handels-Archiv. Jan.—Dec., 1897. 12 parts, 4to.	Mr. J. Scott Keltie
Gewerblichen Betriebszählung, 14 Juni, 1895. Hauptergebnisse der, (Ergänzung zum Heft 1 der Vierteljahrshefte, 1898.) 4to.	The Imperial Statistical Bureau
Handel, Auswärtiger, des deutschen Zollgebiets im Jahre 1896. Theil 1. Darstellung nach Waarengattungen. 1898. 4to.	
Handel des deutschen Zollgebiets. Monatliche Nachweise über den auswärtigen. (Current numbers)	
Seeschiffahrt. Statistik der, für 1896. Abth. 2. Seeverkehr in deutschen Hafenplätzen. Seereisen deutscher Schiffe.	
Vierteljahrshefte zur Statistik des Deutschen Reichs. Jahrgang 1898. Heft 2. 4to.	
Prussia—	
Grundeigenthum und Gebäude auf Grund der Materialien der Gebäudesteuerrevision vom Jahre 1893. Theil 2, Die Gebäude. Maps, fol.	The Royal Prussian Statistical Bureau
Das konigliche statistische Bureau während der Jahre 1885 bis 1896. Von E. Blenck. 8vo.	
Zeitschrift der K. Preussischen Statistischen Bureaus. Vierteljahrsheft 3 und 4, 1897	

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Wurttemburg. Württembergische Jahrbücher für Statistik und Landeskunde. Jahrgang 1895-96. 2 vols. La. 8vo.	Mr. J. Scott Keltie
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Civilstand. Tabellarische Uebersichten betreffend den, der Stadt im Jahre 1897	,,
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Hanover. Monatsberichte des Statistischen Amts der Stadt. (Current numbers)	The Municipal Statistical Bureau
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Handwörterbuch der Staatswissenschaften. Zweiter Supplementband. La. 8vo. 1897	Purchased
Jahrbuch für Gesetzgebung, Verwaltung und Volkswirtschaft. Hefte 2 und 3, 1898	The Editor
Jahrbücher für Nationalökonomie und Statistik. (Current monthly numbers)	The Publisher
Zeitschrift für die gesammte Staatswissenschaft. Hefte 1—4, 1897. Hefte 1—3, 1898	,,
Zeitschrift für Socialwissenschaft. Jahrgang i. Hefte 4 und 5. 8vo., 1898	The Editor
Greece—	
Bulletin mensuel du Commerce spécial avec les pays étrangers. (Current numbers)	The Statistical Bureau
Commerce de la Grèce avec les Pays étrangers pendant 1896. 4to.	
Italy—	
Annali di Statistica. Atti della commissione per la Statistica giudiziaria civile e penale. Sessione del Maggio, 1897. 8vo.	
Bollettino di Legislazione e Statistica Doganale e Commerciale. (Current monthly numbers)	
Cause di Morte. Statistica dell' anno 1896. 8vo.	The Director-General of Statistics
Commercio speciale di Importazione e di Esportazione. Statistica del. (Current monthly numbers)	
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Giornale degli Economisti. (Current monthly numbers)	,,
Rivista Italiana di Sociologia. Fasc. 2. 1898	,,

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Annual Report of Central Sanitary Bureau for 1893-94. 8vo., 1897	The Registrar-General for England
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Estadistica Fiscal. Importacion. Años fiscales de 1893-94 y 1892-93. 2 vols., fol. Diagrams	
Netherlands—	
Geboorten. Statistiek der, en der sterfte naar den leeftijd en de oorzaken van den dood. (Current monthly numbers)	The Ministry of the Interior
Maandcijfers en andere periodieke opgaven . . . Jaar 1897. No. 10. 8vo.	The Central Statistical Commission
Staten van de In-, Uit-, en Doorgevoerde voornaamste Handelsartikelen. (Current monthly numbers)	
Verslag van de werkzaamheden der Centrale Commissie voor de Statistiek in 1897. 8vo.	
Vijf Jarig Overzicht van de Sterfte naar den Leeftijd en de Oorzaken van den Dood in elke Gemeente van Nederland gedurende 1890-94. 4to. 1898	The Department of the Interior
Norway—	
Assistance publique en 1894. Statistique de l'. (279)	The Central Statistical Bureau
Chemins de fer publics de la Norvège. Rapport pour 1896-97. (282)	
Justice civile. Statistique pour 1895. (283)	
Pêches maritimes. Grandes, pendant 1896. (281)	
Population. Mouvement de la, pendant 1893. (280)	
Recensement, 1891. Population par nationalité, lieu de naissance, et culte. Aveugles, sourds-muets et aliénés. Mariages consanguins . . . (278)	
Meddelelser fra det Statistiske Centralbureau. Vol. xv. 1897	
Portugal—	
Estatistica da Administraçao da Justiça criminal . . . Annos 1878, 1879, 1880. 3 vols., sm. fol.	Mr. J. Batalha Reis
Estatistica de Commercio de Portugal . . . Annos 1886, 1891, 1892, 1893, 1894. 5 vols. fol.	
Roumania—	
Buletinul Lunar al Miscarei Populatiunei in Orasele Romaniei. (Current monthly numbers)	The Statistical Bureau
Statistica agricola. (Evaluations provisoires des cultures et récoltes pour 1896-97.) 7 pp., 4to. 1898	
Bucharest. Buletin statistic Lunar al Orasului Bucuresci. (Current numbers)	The Municipal Statistical Bureau
Russia—	
Agriculture. Résultats généraux de la Récolte de 1897. Récolte des céréales d'hiver et d'été comparée aux récoltes de 1892-96. Sm. 4to.	The Central Statistical Committee
Incendies. Statistique des, en 1888-94. Sm. 4to.	

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Recensement Général de la Population, 1897. Livraisons 1, Populations de l'Empire par districts. 2, Population des Villes. Sm. 4to.	
Budget de l'Empire. Règlement définitif du, pour l'Exercice 1896. Rapport par le Contrôleur de l'Empire. 8vo.	The Controller of the Empire
Bulletin russe de statistique financière et de législation. (Current monthly numbers.) La. 8vo.	The Publishers
Commerce extérieur de la Russie par la frontière d'Europe. Bulletin mensuel (current numbers)	The Department of Customs
Commerce extérieur de la Russie pendant 1895. (In Russian)	
Prices of rye and oats in European Russia. Diagram-maps showing. (Current monthly numbers)	Department of Commerce and Industry
Agricultural Statistics for 1896 and 1897. 3 vols., 8vo. (In Russian)	Mr. P. Kropotkin
Traffic and Transport of Goods on Railways, Rivers, and Canals. Reports on, 1890-94. 13 vols., 8vo. (In Russian)	
Finland—	
Annuaire Statistique pour la Finlande. 19e année, 1898. 8vo.	The Central Statistical Bureau
Mouvement de la Population de Finlande en 1895	
St. Petersburg—	
Recensement de 1890. Population. Livraisons 1, Population par sexe, âge, état civil, culte, état ou condition sociale, langue maternelle, et degré d'instruction. 2, Répartition de la population par professions. 2 vols., fol.	The Registrar-General of England
Société impériale libre économique. Travaux de la. No. 6, 1897. (In Russian)	The Society
Servia—	
Annuaire Statistique du Royaume de Serbie. 2e tome, 1894-95. 8vo.	The Statistical Bureau
South African Republic—	
Report of State Mining Engineer for 1896. Fol.	Mr. J. Scott Keltie
Spain—	
Comercio Exterior. Resumenes mensuales de la Estadistica del. (Current numbers)	The Director-General of Customs
Comercio de Cabotaje. Estadistica general del, en 1895. Fol.	
Junta de Aranceles y de Valoraciones. Real decreto organico personal y reglamento de la misma. 70 pp. 12mo. 1898	
Sociedad Geográfica de Madrid. Boletin y Revista de Geografia colonial y mercantil. (Current numbers)	The Society

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Bulletin démographique et sanitaire suisse. (Current weekly numbers)	The Federal Statistical Bureau
Journal de statistique suisse, 1898. Livr. 3 et 4. 4to.	
Turkey—	
Ottoman Public Debt. Special Report for 1895-96, by Sir Vincent Caillard. 8vo. 1896	Mr. J. Scott Keltie
Report on Financial Situation of Turkey. 36 pp., 4to. (MS. type written.) Dec., 1896	
United States—	
Agriculture, Department of. Monthly Crop Reports (current numbers), also Final Report on Crops of 1897	
Bulletins, 1898. Nos. 10, Our foreign trade in agricultural products during 1893-97. 11, Spain's foreign trade. 12, Our trade with Spain, 1888-97. 15, Exports of Cotton from Egypt. 16, Our trade with Cuba from 1887-97. 17, U.S. Wheat for Eastern Asia. 18, Hawaiian Commerce, 1887-97. 19, Austria-Hungary as a factor in the World's Grain trade. 20, Agricultural Imports and Exports, 1893-97. 8vo.	The Department
Census. Debate in U.S. Senate on the 12th Census, with letters on the Census of 1900, by Hon. R. P. Porter and Hon C. D. Wright. 18 pp., 8vo. 1897	Mr. W. M. Acworth
Consular Reports. (Current monthly numbers.)	Department of State
Debt. Monthly Statements of the Public, and of Cash in Treasury. (Current numbers.) Sheets	The Secretary of the Treasury
Gold, Silver, and Notes, &c., in Circulation, and Changes in Money and Bullion in the Treasury. Monthly Statements. (Current numbers.) Sheets	
Finance and Commerce. Monthly Summary of. (Current numbers.) Diagrams. 4to.	The Bureau of Statistics, Treasury Department
Foreign Commerce and Navigation of the United States for year ending 30th June, 1897. Vol. i, parts 1 and 2; vol. ii, parts 1—3. 5 vols. Diagrams. 4to.	
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Illinois. Coal in Illinois, 1897. 16th Annual Report of State Bureau of Labor Statistics concerning, and also containing 14th Annual Report of State Inspectors of Mines. 8vo.	The Bureau
Iowa. Bureau of Labor Statistics. 7th Biennial Report for 1895-96. Plates. 8vo.	"

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State Board of Arbitration and Conciliation. 12th Annual Report for 1897. 8vo.	The Board
Metropolitan Water Board. Third Annual Report for 1897. Maps and plates. 8vo.	,,
Michigan. Monthly Bulletin of Vital Statistics. (Current numbers)	The Division of Vital Statistics
New York State—	
Bureau of Labor Statistics. 14th Annual Report for 1896. 8vo.	The Bureau
Public Library. Bulletin. (Current numbers)	The Library
New York (City). Weekly Report of the Department of Health. Nos. 1—4. 1898. 8vo.	Dr. F. J. Allan
Banker's Magazine and Rhodes' Journal of Banking. (Current monthly numbers)	The Editor
Bradstreet's. (Current weekly numbers)	,,
Commercial and Financial Chronicle. (Current weekly numbers, with Supplements)	,,
Engineering and Mining Journal. (Current numbers)	,,
Journal of Political Economy. Vol. vi, No. 2, 1898	The Publisher
Library of Economics and Politics—1. Workingmen's Insurance at home and abroad: *W. F. Willoughby.* xii + 386 pp., 8vo. 1898. 2. Congressional Committees. A study of the origins and development of our national and local legislative methods: *L. G. McConachie.* xiv + 441 pp. 8vo. 1898	Messrs. Crowell and Co., Boston, Mass.
Political Science Quarterly. Vol. xiii, No. 1, 1898	The Editor
Quarterly Journal of Economics. Vol. xii, No. 3, 1898	The Publisher
Yale Review. Vol. vii, No. 1. 1898	The Editor
American Academy of Political and Social Science. Annals. Vol. xi, No. 3. 1898	The Academy
American Economic Association. Economic Studies: Vol. iii, No. 2. Economic aspects of railroad receiverships: *H. H. Swain.* 1898	The Association
American Geographical Society. Bulletin. Plates. (Current numbers)	The Society
American Philosophical Society. Proceedings. No. 156. Plates, 8vo. 1897	,,
American Statistical Association. Quarterly Publications. New Series. No. 41. 1898	The Association
John Crerar Library. [Chicago.] Third Annual Report for 1897. 8vo.	The Librarian
Leland Stanford, junr. University. Register for 1897-98. 8vo.	The University
Sound Currency Committee. Leaflets, &c. 8vo. 1898	The Committee
The Smithsonian Institution, 1846-96. The History of its first half century. Edited by George B. Goode. Plates, 8vo. 1897	The Smithsonian Institution
Smithsonian Miscellaneous Collections, 1084. Bibliography of Metals of Platinum group. 1748-1896. 8vo. 1897	

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Anuario Estadistico de la Republica. Año 1896. Plates and diagrams. La. 8vo.	The Statistical Bureau
Montevideo. Boletin mensual demografico de Montevideo. (Current numbers)	The Municipal Statistical Bureau
International—	
Bulletin International des Douanes. (Current numbers.) 8vo.	The Board of Trade
International Co-operative Alliance. Statistics of Co-operative Societies in various Countries, prepared by the Statistical Committee of the Alliance. [Printed in English, French, and German.] 330 pp., 4to. 1898	Purchased
(b) **India and Colonial Possessions.**	
India, British—	
Trade by Land with Foreign Countries. Monthly Accounts. (Current numbers)	The Statistical Bureau, Government of India
Trade and Navigation. Monthly Accounts. (Current numbers)	
Trade carried by Rail and River in India. Accounts of, in the year 1896-97, and the four preceding years. 9th issue. Fol. 1898	
Bengal—	
Report on the Administration of Bengal, 1896-97. Maps. Fol.	The Lieutenant Governor of Bengal
Review of Education in Bengal (1892-93 to 1896-97), being the first quinquennial Report . . . Maps.	
Indian Engineering. (Current weekly numbers)	The Editor
Asiatic Society of Bengal—	
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Proceedings. (Current numbers)	
Bermuda. Reports of the Registrar-General for 1895-96. 2 vols. Fol.	The Registrar-General of England
Canada, Dominion of—	
Sessional Papers. Session 1897. Vols. 1, Auditor-General's Report. 2, Public Accounts, Chartered Banks, Unpaid Dividends. 3, Insurance. 4, Trade and Commerce, Trade and Navigation. 5, Inland Revenue, Agriculture, Archives. 6, Farms, Criminal Statistics. 7, Public Works, Railways, and Canals. 8, Marine and Fisheries. Plates	Sir John G. Bourinot, K.C.M.G.
Civil Service Examiners. Report of, for 1897	
Estimates for 1898-99	
Geological Survey Department. Report for 1897	
Hudson Bay. Report on Expedition to, in 1897	
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Ontario—	
Agricultural College and Experimental Farm. 23rd Annual Report for 1897. 8vo. Agricultural and Experimental Union. 19th Annual Report, 1897. 8vo. Bulletin of Department of Agriculture. Instructions in spraying. 8vo.	The Ontario Depart. of Agriculture
The Chronicle. Insurance and Finance. (Current numbers)	The Editor
Cape of Good Hope—	
Acts of Parliament of the Colony. Session 1897. Fol. Births and Deaths. Preliminary Report of the Registrar for 1897. Fol. Statistical Register (in part) of the Colony for 1897. (Advance copy) Votes and Proceedings of Parliament, 1897, and Appendices I and II to Votes and Proceedings, 1897. 7 vols. Maps, &c.	The Hon. Colonial Secretary
New South Wales—	
Agricultural Statistics of New South Wales, 1898. Australasian Statistics, 1897. (Population and Vital Statistics)	The Government Statistician
Public Works, Report of Department of, for 1895-96. Diagrams, fol.	The Agent-General for N.S. Wales
Returns from the Registrar-General's Department for 1897. 7 pp., fol.	The Registrar-General
Statistical Register for 1896 and previous years	The Agent-General for N.S. Wales
Statistical Registrar for 1897. Parts 1, Local Government. 2, Shipping. 3, Commerce	The Government Statistician
Wealth and Progress of New South Wales, 1896-97. 10th issue. Map, 8vo. 1897	The Agent-General, N.S. Wales
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Government Insurance Recorder. (Current numbers)	The Government Insurance Department

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Statistics of the Colony for 1896. Fol.	The Registrar-General of New Zealand
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New Zealand Trade Review and Price Current. (Current monthly numbers)	The Editor
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Queensland, Past and Present. An Epitome of its Resources and Development. 1897. 2nd issue. Plates, 8vo.	Mr. Thornhill Weedon
Supplements to the Government Gazette (containing Vital Statistics). (Current numbers)	The Registrar-General of Queensland
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Royal Society of Tasmania. Papers and Proceedings for 1897. Maps and diagrams, 8vo. 1898	The Society
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Friendly Societies. 19th Annual Report for 1896	The Actuary for Friendly Societies
Statistical Register for 1896. Parts 5, Vital Statistics; 7, Accumulation; 8, Production; Australasian Statistics for 1896	The Assistant Government Statist
Western Australia—	
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Customs Tariffs of the United Kingdom from 1800 to 1897. With some notes upon the history of the more important branches of receipt from the year 1660. [C-8706.] Fol. 1897.....	Mr. T. J. Pittar
Emigration and Immigration from and into the United Kingdom in 1897 (154). 1898.....	The Board of Trade
Estimates, 1897-98. Army, Navy, and Civil Service. 3 vols., fol. 1897	Mr. J. Scott Keltie
Foreign Office Reports on Trade and Finance. Annual and Miscellaneous Series. (Current numbers)	Purchased
Labour Gazette. Journal of Labour Department of Board of Trade. (Current monthly numbers)	The Board of Trade
Labour. Report by Miss Collet on changes in the employment of Women and Girls in Industrial Centres. Part 1, Flax and Jute Centres. [C-8794.] 1898	The Labour Department
Mines and Quarries: General report and Statistics for 1897. Advance proof, showing out-put of Coal and Minerals and numbers employed during 1897. Part 1, District Statistics. Fol. [C-8836.] Maps	The Home Office
Trade and Navigation. (Current monthly returns).....	The Board of Trade
National Wheat Stores. Report of the Agricultural Committee on, xii pp. Fol. 1898	Mr. R. H. Rew
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Agriculture. Journal of the Board of. Vol. iv, No. 4. 1898. 8vo. ..... Agriculture. Board of, Annual Reports of Proceeding under the Diseases of Animals Acts, the Markets and Fairs (Weighing of Cattle) Acts, &c., for 1897. Maps and Plates, 8vo. [C-8796].....	The Board of Agriculture
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British Museum. Catalogue of Printed Books. 6 parts. 4to.	The Trustees
Births and Deaths in London and in twenty-seven other Great Towns. (Current weekly returns) ..... Quarterly Return of Marriages to Dec., 1897; Births and Deaths to March, 1898. No. 197.....	The Registrar-General of England

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Judicial Statistics for 1896. Part I. Criminal Statistics. [C-8755.] 1898. Part II. Civil Judicial Statistics. [C-8838.] 1898	The Home Office
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London Technical Education Gazette. (Current numbers)	The London County Council
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Bristol. Annual Report of Medical Officers of Health . . . 1897. Plan, 8vo.	,,
Halifax. Report of Medical Officer of Health, with Reports of Sanitary Inspector and Borough Analyst for 1897. Diagram, 8vo.	,,
Liverpool—	
Report on Health of Liverpool during 1897. Plans	,,
Public Libraries, Museums, and Art Gallery. Forty-fifth Annual Report for 1897. 8vo	The Chief Librarian
Manchester. Health of. Weekly and Quarterly Returns of the Medical Officer. (Current numbers)	The Medical Officer of Health
Norwich. Annual Report on the Health of the City for 1897. Diagrams, fol.	,,
Preston. Annual Report of Medical Officer of Health for 1897. Maps, 4to	,,
West Sussex. Annual Report on condition of combined District of West Sussex for 1897. 8vo.	Dr. Charles Kelly
Ireland—	
Births and Deaths in Dublin and in fifteen of the principal Urban Sanitary Districts. (Current weekly returns)	The Registrar-General of Ireland
Quarterly Return of Marriages to Dec., 1897; Births and Deaths to Mar., 1898. No. 137	
Scotland—	
Births, Deaths, and Marriages in the eight principal Towns. (Current weekly and monthly returns)	
Quarterly Return of Births, Deaths, and Marriages for the quarter ending 31st March, 1898	The Registrar-General of Scotland
Supplement to Monthly and Quarterly Returns of Births, Deaths, and Marriages registered during 1897, and Vaccination Returns relative to children born in 1896	
Aberdeen. Reports by Medical Officer of Health and Sanitary Inspector. (Current numbers.) 8vo.	The Medical Officer of Health

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Ayer (*Jules*). General and comparative Tables of the World's Statistics. Area, Population, Religions, Military and Naval Power, Financial position, Railway and Telegraph Mileage, &c. Sheet. 1898	The Publisher
B. (*H. F.*) [Anon.]. Indian Finance Difficulty. A solution. 16 pp., 8vo. 1898	The Author
Biedermann (*Ernst*). Statistik der Edelmetalle als Materialien zur Beurtheilung der Währungsfrage in Tabellen und graphischen Darstellungen unter Anlehnung an die Soetbeer'schen "Materialien . . . bis Ende 1895" . . . 84 pp., diagrams, 4to. Berlin, 1898	The Publishers
Cook (*Lady*). Essays on Social Topics. 284 pp., 8vo.	The Author
Danson (*J. T.*). Our Commerce, in War; and how to protect it. 132 pp., 8vo. 1897	Purchased
Del Mar (*Alexander*). How to keep our Gold. 15 pp., 8vo. New York, 1898	The Author
Doubleday (*Thomas*). True Law of Population shown to be connected with the food of the People. Third Edit. 338 + lxii pp., 8vo. 1853	Purchased
Fenn on the Funds, being a Handbook of Public Debts . . . 16th Edition, edited by S. F. Van Oss . . . xix + 578 pp., 8vo. 1898	The Publisher
Fircks (*Arthur Freiherr von*). Bevölkerungslehre und Bevölkerungspolitik. x + 492 pp., 8vo. Leipzig, 1898	The Author
Fornasari di Verce (*E.*). Le Morti per Pellagra, Alcoolismo e Suicidio in Italia. 15 pp., diagrams, 8vo. 1898	,,
Green (*Charles H.*). The Workmen's Compensation Act, 1897, the employer and the insurance companies. 14 pp., 8vo. 1898	,,
Greswell (*Rev. William Parr*). Growth and Administration of the British Colonies, 1837-97. 253 pp., 8vo. 1898	Purchased
Karup (*Prof. Johannes*). Finanzlage der Gothaischen Staatsdiener- Wittwen- Societät am 31 Dez., 1890 . . . 146 pp., fol. Dresden, 1893	The Registrar-General of England
Lindsay (*W. S.*). History of Merchant Shipping and Ancient Commerce. 4 vols., plates, &c., 8vo. 1874	Purchased
Mongredien (*Augustus*). History of Free Trade Movement in England. New Edition, with introductory and supplementary chapters by the Rev. Dr. H. de B. Gibbins. 200 pp., 12mo. 1897	,,
Mullins (*George Lane*). Tuberculosis and the Public Health. 23 pp., 12mo. Sydney, 1898	The Author
Munro (*J. E. C.*)— Sliding Scales in the Coal Industry. 55 pp., 8vo. 1885 Sliding Scales in the Coal and Iron Industries from 1885 to 1889. 8vo.	Purchased
Smith (*G. Armitage*). The Free-Trade Movement and its results. 244 pp., 8vo. 1898	The Author

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British Association—	
Report of 67th meeting held at Toronto in August, 1897. Plates, 8vo.	The Association
Report on Ethnographical Survey of the United Kingdom. 8vo. 1898	Mr. E. Sydney Hartland
British Economic Association. Economic Journal. March, 1898	The Association
Corporation of Foreign Bondholders. Appendix to 23rd Annual General Report of Council for 1895. 8vo.	Mr. J. Scott Keltie
Economic Review. Vol. viii, No. 2. 8vo. 1898	The Publisher
East India Association. Journal. (Current numbers)	The Association
Howard Association. Juvenile Offenders. 8vo. 1898	,,
Imperial Institute. Journal. (Current monthly numbers)	The Institute
Institute of Bankers. Journal. (Current numbers)	,,
Institution of Civil Engineers. Minutes of Proceedings. Vol. cxxxi. 1898	,,
Iron and Steel Institute. Journal. Name Index. Vols. 1—50, 1869-96. 8vo.	,,
London Chamber of Commerce Journal. (Current numbers)	The Chamber of Commerce
Manchester Literary and Philosophical Society. Memoirs and Proceedings. Vol. xlii, part 2, 1897-98	The Society
Manchester Statistical Society. Forty years' industrial changes in England and Wales: *T. A. Welton*	,,
Middlesex Hospital. Reports of the Medical, Surgical, and Pathological Registrars for 1896. 8vo.	The Hospital
Royal Agricultural Society. Journal. Third series. Vol. ix, part 1. 1898	The Society
Royal Asiatic Society. Journal for April, 1898	,,
Royal Geographical Society. Geographical Journal. (Current numbers)	,,
Royal Institution of Great Britain. Proceedings. Vol. xv, No. 91, 1898; and List of Members, &c. 1897	The Institution
Royal Irish Academy. Transactions. Vol. xxxi, Parts 1—6. Plates, 4to. 1896-98	The Academy
Royal Meteorological Society—	
Meteorological Record. Monthly results of observations for third quarter of 1897	The Society
Quarterly Journal. Vol. xxiv, No. 106, 1898	
Royal Society. Proceedings. (Current numbers.) Also Year-Book, 1896-97. No. 1. 8vo.	,,
Royal Society of Edinburgh—	
Proceedings. Vol. xxi, Sessions 1895-97. Plates, 8vo. Transactions. Vol. xxxviii, Parts 3 and 4. Vol. xxxix, Part 1. Sessions 1895-97. Plates, 4to.	,,
Royal United Service Institution. Journal. (Current numbers)	The Institution
Sanitary Institute. Journal of the Institute. Vol. xix. Part 1, 1898	The Institute

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Society of Arts. Journal. (Current numbers)		,,
Surveyors' Institution. Transactions. (Current numbers)		The Institution
(f) **Periodicals, &c. (British).***		
Accountant, The	Current numbers	The Editor
Accountants' Magazine, The	,,	,,
Athenæum, The	,,	,,
Australian Trading World	,,	,,
Bankers' Magazine, The	,,	,,
Bimetallist, The	,,	,,
British Trade Journal, The	,,	,,
Building Societies and Land Companies Gazette	,,	,,
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Commercial World, The	,,	,,
Economist, The	,,	,,
Fireman, The	,,	,,
Incorporated Accountants' Journal	,,	,,
Insurance Post, The	,,	,,
,, Record, The	,,	,,
,, Spectator of London	,,	,,
Investors' Monthly Manual, The	,,	,,
,, Review	,,	,,
Iron and Coal Trades' Review, The	,,	,,
Johannesburg Standard and Diggers' News. London Edition	,,	,,
Licensing World, The	,,	,,
Machinery Market, The	,,	,,
Nature	,,	,,
Policy-Holder, The	,,	,,
Post Magazine, The	,,	,,
Public Health	,,	,,
Review, The	,,	,,
Sanitary Record, The	,,	,,
Shipping World, The	,,	,,
Statist, The	,,	,,
Brewers' Almanack and Wine and Spirit Trade Annual for 1898		Mr. Percy C. Morgan
Licensed Victuallers' Official Annual (5th year of issue) for 1898. 8vo.		Mr. Albert B. Deane
Electrical Engineers' Central Station Directory . . . 8vo. 1897		Mr. J. O. Neumann

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Vol. LXI.] [Part III.

JOURNAL

OF THE ROYAL STATISTICAL SOCIETY,

SEPTEMBER, 1898.

REPORT *of the* COUNCIL *for the* FINANCIAL YEAR *ended* 31*st December*, 1897, *and for the* SESSIONAL YEAR *ending* 28*th June*, 1898, *presented at the* SIXTY-FOURTH ANNUAL GENERAL MEETING *of the* ROYAL STATISTICAL SOCIETY, *held at the Society's Rooms*, 9, *Adelphi Terrace*, *Strand*, *London*, *on the* 28*th of June*, 1898.

THE Council have the honour to submit their Sixty-fourth Annual Report.

The roll of Fellows on the 31st December last as compared with the average of the previous ten years was as follows—

Particulars.	1897.	Average for the previous Ten Years.
Number of Fellows on 31st December	892	991
Life Members included in the above	182	174
Number lost by death, withdrawal, or default	58	64
New Fellows elected	40	61

Since the 1st January last, 22 new Fellows have been elected, and the Society has lost 18 by death or resignation, so that the number at present on the list is 896.

The Society has to deplore the deaths of the undermentioned Fellows since June last year:—

		Date of Election.
c	Acland, Right Hon. Sir Thomas Dyke, Bart.	1869
c d	Chadwick, John Oldfield	1869
d	Chisholm, David, F.I.A., F.S.A.	1853
	De Keyser, Alderman Sir Polydore	1883
	Dixon, George, M.P.	1873
	Edmonds, William	1869
p 1	Fellows, Frank Perks	1864
	Hefford, George V.	1870
c d p 7	Heywood, James, M.A., F.R.S.	1834
	Hillingdon, Right Hon. Lord	1878

c Indicates those who had served on the Council.
d Indicates those who had been Donors to the Library.
p Indicates those who had contributed Papers, with the number.

		Date of Election—*Contd.*
d	Kamensky, Gabriel de	1895
	Leggatt, Daniel, LL.D.	1877
c d p 1	Mundella, The Right Hon. A. J., M.P., F.R.S.	1878
	Musgrave, James	1890
d	Newmarch, Mrs. E.	1883
c	Palmer, George, J.P.	1879
d	Quain, Sir Richard, Bart., M.D., F.R.S.	1874
	Williams, Henry R.	1870

The above list includes the names of several old and valued Fellows of the Society, foremost among which is that of Mr. James Heywood, of whom there was a short obituary notice in the *Journal* of March, 1898.

The late Mr. J. Oldfield Chadwick had served on the Council for many years, and also showed his interest in the welfare of the Society by acting as one of its honorary auditors for the past twenty years.

The late Mr. Mundella had also been a Fellow of the Society since 1878, and besides serving on the Council, contributed a valuable Paper to the Society's *Journal* on the Commercial Supremacy of this Country.

The late Mrs. E. Newmarch, the widow of the late Mr. William Newmarch, F.R.S., had always taken great interest in the Society, and on the death of her husband became a member, and bequeathed to the Society a valuable selection of economic and statistical works from the library of Mr. Newmarch.

The financial condition of the Society is exhibited in the accompanying table, in which the particulars are contained for the twenty-five years 1873-97.

The papers read and the members elected at each of the ordinary meetings have been as follows:—

Session 1897-98.

First Ordinary Meeting, Tuesday, 16th November, 1897.

The Right Hon. Leonard H. Courtney, M.P., President, in the Chair.

The following were elected Fellows:—

Major Leonard Darwin.	Frederick Lamperd.
George Laurence Gomme.	George Lane Mullins.
Thomas Hall.	William Thomas Rothwell.
William Gill Hodgson.	Henry William Southgate.
E. Aubrey Hastings Jay.	George Henry Wood.

c Indicates those who had served on the Council.
d Indicates those who had been Donors to the Library.
p Indicates those who had contributed Papers, with the number.

Statement of the Condition of the Society in the last Twenty-five Years, 1873-97.

Year.	Number of Fellows on 31st December.	Number of Compounders included therein.	Losses during Year by Deaths, &c.	Gains by Election, &c., during Year.	Ordinary Income.	Ordinary Expenditure.	Income from all Sources.	Income from			Total Expenditure.	Expenditure on		Amount Invested on 31st December.	Year.
								Annual Subscriptions.	Compositions.	Journal Sales.		Journal.	Library.		
					£	£	£	£	£	£	£	£	£	£	
1873....	530	75	34	110	1,231	1,026	1,248	832	189	167	1,284[a]	384	17	1,600	1873
'74....	588	84	35	93	1,377	1,479	1,377	918	252	140	1,491	461	40	1,600	'74
'75....	607	87	31	50	1,231	1,723	1,231	928	105	133	1,733	449	18	1,271	'75
'76....	611	90	46	50	1,438	1,320	1,438	1,054	168	159	1,340	524	75	1,271	'76
'77....	683	101	40	112	1,597	1,285	1,597	1,117	252	151	1,476[a]	474	49	1,471	'77
'78....	746	115	45	108	1,732	1,345	1,732	1,197	294	169	1,849[a]	580	32	2,000	'78
'79....	783	119	52	89	1,698	1,427	1,698	1,300	126	176	1,808[a]	671	34	2,400	'79
1880....	808	129	49	74	1,902	1,517	1,902	1,317	273	202	1,806[a]	573	80	2,700	1880
'81....	807	130	45	44	1,649	1,400	1,649	1,306	84	145	1,697[a]	609	37	3,000	'81
'82....	786	135	63	42	1,838	1,580	1,838	1,291	189	227	1,782[a]	553	60	3,200	'82
'83....	860	139	41	115	1,774	1,635	1,778	1,361	126	150	1,943[a]	585	49	3,500	'83
'84....	909	150	57	106	2,055	1,585	3,146[b]	1,447	294	207	3,088[c]	645	38	2,500	'84
'85....	928	148	55	74	1,812	1,832	2,062[d]	1,462	63	188	2,070[c]	625	27	2,500	'85
'86....	943	156	70	85	2,086	1,842	2,086	1,583	231	180	2,106[e]	735	32	2,500	'86
'87....	977	160	59	93	2,029	1,745	2,029	1,621	126	188	2,135[f]	609	87	2,500	'87
'88....	1,059	172	58	140	2,292	1,939	2,292	1,686	334	171	2,003	711	58	2,500	'88
'89....	1,060	175	69	70	2,115	1,904	2,115	1,678	126	229	2,060[g]	623	146	2,500	'89
1890....	1,063	177	65	68	2,097	1,707	2,097	1,764	84	155	2,096[a]	567	68	2,900	1890
'91....	1,019	172	80	36	1,976	1,744	2,076[h]	1,707	42	146	1,957[i]	582	172	2,900	'91
'92....	994	171	70	45	1,980	1,859	1,980	1,634	84	158	1,883[j]	539	94	2,900	'92
'93....	964	176	66	36	1,904	1,921	1,904	1,560	124	128	1,921	578	63	2,900	'93
'94....	933	180	67	36	1,830	1,904	1,830	1,491	105	152	1,904	649	75	2,900	'94
'95....	928	180	59	54	1,793	1,796	1,793	1,468	63	180	1,823[k]	576	56	2,900	'95
'96....	910	181	48	30	1,772	1,787	1,772	1,478	42	168	1,787	571	44	2,900	'96
'97....	892	182	58	40	1,857	1,879	1,857	1,472	145	157	1,986[l]	650	50	2,900	'97

[a] Includes purchase of Government stock. [b] Includes sale of 1,000*l.* stock. [c] Includes expense of moving to new premises.
[d] Includes Dr. Guy's legacy of 250*l.* [e] Includes cost of Jubilee Volume. [f] Includes cost of Catalogue and Index, and of Charter.
[g] Includes cost of part iv of Index to Journal. [h] Includes Mrs. Lovegrove's legacy of 100*l.*
[i] Includes outlay for Guy Medal and for binding the "Times." [j] Includes outlay for drainage repairs.
[k] Includes cost of Subject-Index to *Journal*. [l] Includes cost of doing up interior of premises.

The subject of the Howard Medal Essays for 1897-98 was announced, viz., "The Treatment of Habitual Offenders, with "special reference to their Increase or Decrease in various "Countries."

Major P. G. Craigie read a Paper on "Notes on the Subjects "Discussed at the St. Petersburg Meeting of the International "Statistical Institute."

In the discussion which followed, the undermentioned took part:—Mr. F. Hendriks, Mr. A. E. Bateman, Sir Rawson W. Rawson, Mr. J. Macdonell, Mr. R. H. Hooker, and the President.

Second Ordinary Meeting, Tuesday, 14th December, 1897.

The Right Hon. Leonard H. Courtney, M.P., President, in the Chair.

The following were elected Fellows:—

William Arnold. | Joseph Oscar Neumann.
H. Fountain. | Basil Aubrey Hollond Woodd.
Norman Crichton Young.

The President delivered his Inaugural Address, "Jevons's Coal "Question: Thirty Years After."

A cordial vote of thanks to the President for his Address was moved by Mr. A. E. Bateman, C.M.G., seconded by Mr. R. Price-Williams, and carried unanimously.

Third Ordinary Meeting, Tuesday, 18th January, 1898.

The Right Hon. Leonard H. Courtney, M.P., President, in the Chair.

The following were elected Fellows:—

Arthur Seymour Jennings. | Frank Baillie Ritchie.
Edward Samuel Spicer.

Mr. J. A. Baines, C.S.I., read a Paper on "The Recent "Course of Trade within the British Empire."

In the discussion which followed, the undermentioned took part:—Mr. R. H. Hooker, on behalf of Mr. A. W. Flux, Mr. H. Moncreiff Paul, Mr. N. L. Cohen, Mr. J. O. Neumann, Mr. Stephen Bourne, Mr. L. Davidson, Mr. A. E. Bateman, Dr H. Gerlich, and the President.

Fourth Ordinary Meeting, Tuesday, 15th February, 1898.

C. S. Loch, Esq., Vice-President, in the Chair.

The following were elected Fellows:—

Alfred J. Alexander. | Edward Stuart Chapman.
James Frederick Gerhard Pietersen.

Mr. E. Cannan read a Paper on the "Demographic Statistics "of the United Kingdom: their want of Correlation and other "Defects."

In the discussion which followed, the undermentioned took part:—Mr. A. E. Bateman, Mr. N. A. Humphreys, Mr. G. McLeod, Mr. W. M. Acworth, Major P. G. Craigie, Mr. R. Price-Williams, Sir Robert Giffen, Mr. N. L. Cohen, Mr. R. H. Hooker, Mr. H. F. J. Burgess, Mr. C. S. Loch (Chairman), and Mr. E. Cannan in reply.

Fifth Ordinary Meeting, Tuesday, 15th March, 1898.

The Right Hon. Leonard H. Courtney, M.P., President, in the Chair.

The following were elected Fellows:—

John Thavies Denny. | Eugene Karminski.
John Walter Forster. | William Napier Shaw.
Alexander Johnstone Wilson.

Miss C. E. Collet read a Paper on "The Collection and "Utilisation of Official Statistics bearing on the Extent and "Effects of the Industrial Employment of Women."

In the discussion which followed, the undermentioned took part:—Mr. N. A. Humphreys, Mr. Charles Booth, Sir Rawson W. Rawson, Mr. Jesse Argyle, Sir Robert Giffen, Mr. A. E. Bateman, Miss Petherbridge, Mr. J. A. Baines, Mr. M. N. Adler, Mrs. N. L. Cohen, Dr. R. Dudfield, Miss Collet in reply, and the President.

Sixth Ordinary Meeting, Tuesday, 19th April, 1898.

Sir Francis Sharp Powell, Bart., M.P., in the Chair.

The following were elected Fellows:—

Valerian A. Litkie. | Robert Alexander Macdonald.

Mr. C. S. Loch read a Paper on "Poor Relief in Scotland; its "Statistics and Development, 1791 to 1891."

In the discussion which followed, the undermentioned took part:—Colonel Sir Colin Scott-Moncrieff, Mr. Thomas Mackay, Mr. McCallum, Mr. G. Udny Yule, Mr. E. W. Brabrook, Major P. G. Craigie, Mr. C. S. Loch in reply, and the Chairman (Sir Francis S. Powell).

Seventh Ordinary Meeting, Tuesday, 17th May, 1898.

A. E. Bateman, Esq., C.M.G., Hon. Vice-President, in the Chair.

The following were elected Fellows:—

Francis Chatillon Danson.	Stephen Massingberd.
Wolf Defries.	Alfred Smith.

Mr. G. Laurence Gomme read a Paper on "Local Taxation in "London."

In the discussion which followed, the undermentioned took part:—Mr. C. S. Loch, Mr. N. A. Humphreys, Mr. E. Cannan, Mr. R. Price-Williams, Sir Juland Danvers, Mr. J. A. Baines, and Mr. G. L. Gomme in reply.

Eighth Ordinary Meeting, Tuesday, 21st June, 1898.

C. S. Loch, Esq., Vice-President, in the Chair.

The following were elected Fellows:—

William Henry Allen.	Miss Beatrice Hewart.
George Herring.	Arthur C. Kent.

George Martineau.

A Paper by Mr. T. A. Coghlan, Government Statistician of New South Wales, on "Deaths in Child-birth in New South "Wales," was read in his absence by the Assistant-Secretary.

In the discussion which followed, the undermentioned took part:—Mrs. Garrett-Anderson, Mr. E. W. Brabrook, Dr. Hingston Fox, Mr. B. A. H. Woodd, Mr. G. U. Yule, and Mr. C. S. Loch (summing up).

In notifying the occurrences of the Session 1897-98, the first matter to be noticed is the honour which the Society obtained at the Diamond Jubilee, when Her Majesty the Queen awarded a Jubilee Medal to Mr. A. E. Bateman, C.M.G., the then President of the Society.

The late Mr. James Heywood, whose lamented death is recorded earlier in this Report, bequeathed to the Society the sum of 500*l.* With a view to providing against possible contingencies, this welcome legacy has been invested, and not brought into the current accounts.

Under the conditions of the lease by which the Society holds its premises in Adelphi Terrace, the Council were obliged during the year to expend the sum of 107*l.* on the painting and cleaning of the interior of the house, and during the present summer will have to undertake the painting of the external wood and iron work.

A slight alteration in the form of the Society's balance sheet will be noticed in the next accounts. It has been considered expedient to omit from the assets, as shown in this account, the estimated value of the property of the Society (now reckoned at 3,500*l.*). This figure, which is at best a mere approximation, will no longer be shown, but there will be appended to the statement a note to the effect that the balance shown in favour of the Society is independent of the value of such property.

The Council have received with regret, and with a grateful appreciation of the many services he had rendered to the Society, the resignation of Mr. Stephen Bourne, an old and valued member of the Council, and one who had contributed numerous and important papers on commercial questions. This resignation was due to no diminution of Mr. Bourne's interest in the Society, but to the fact that he felt that increasing years rendered it difficult for him to continue his active support to the work of the Society.

The average attendance of Fellows at the ordinary meetings of the past session again shows a slight improvement on that of the previous year. The experiment of holding the ordinary meetings at 5.30 instead of at 5 o'clock in the afternoon, did not meet with such success as warranted the Council in making the alteration permanent. It was thought that the change in the hour tended to unduly curtailing the time available for discussion. Accordingly, except in the case of the first two meetings in the recent session, the old practice of meeting at 5 o'clock has been resumed.

Permission to hold the ordinary meetings of the Society in the Lecture Theatre of the Royal United Service Institution has been continued, through the courtesy of the Council of the Institution.

The Council would urge upon individual Fellows the importance of their assistance in maintaining a supply of interesting papers, and in introducing new Fellows into the Society. There is again a slight decrease in the membership as compared with the previous year, and the desirability of keeping up the numbers is apparent. A decided increase in membership would enable the Society to extend its usefulness, as well to its present Fellows as to those who may hereafter join it, and experience has shown that there is no method of increasing the numbers so efficient or satisfactory as the individual effort of Fellows.

The Howard Medal for 1897-98 (together with 20*l.*) will be awarded for an essay on the subject of "The Treatment of "Habitual Offenders, with special reference to their Increase or "Decrease in various Countries." The subject for competition in 1898-99 has been selected, and the Medal will be awarded (with 20*l.*, as heretofore) for an essay upon

"The Sentences on and Punishments of Juvenile Offenders in "the Chief European Countries and the United States."

The Council regret that they have lost, by his resignation, the services of Mr. Stephen Massingberd, who has for two years been Assistant Secretary and Editor of the Society's *Journal*. To the vacant offices the Council have appointed Dr. Benedict W. Ginsburg.

The cordial thanks of the Council have been tendered on behalf of the Society to the Auditors for their honorary services in auditing the Treasurer's accounts for the past year.

The following list of Fellows proposed as President, Council, and Officers of the Society for the Session 1898-99, was submitted for the consideration of the meeting:—

Council and Officers for 1898-99.

PRESIDENT.

THE RIGHT HON. LEONARD H. COURTNEY, M.A., M.P.

COUNCIL.

Arthur H. Bailey, F.I.A.
Jervoise A. Baines, C.S.I.
*Arthur Lyon Bowley, M.A.
Sir Courtenay Boyle, K.C.B.
*Edward W. Brabrook, C.B., F.S.A.
Sir Henry Charles Burdett, K.C.B.
Nathaniel Louis Cohen.
Major Patrick George Craigie.
Richard Frederick Crawford.
Frederick C. Danvers.
The Right Hon. the Earl of Dudley.
Thomas Henry Elliott, C.B.
John Glover, J.P.
Frederick Hendriks, F.I.A.
Henry Higgs, LL.B.
Noel A. Humphreys.
Frederick Halsey Janson, F.L.S.
*John Scott Keltie, LL.D., F.R.G.S.
Geo. B. Longstaff, M.A., M.D., F.R.C.P.
John Macdonell, C.B., LL.D.
Richard Biddulph Martin, M.A., M.P.
*Rev. Wm. Douglas Morrison, LL.D.
Francis G. P. Neison, F.I.A.
*Charles Norris Nicholson.
Thomas J. Pittar.
Sir Francis S. Powell, Bart., M.P.
Lesley Charles Probyn.
R. Henry Rew.
H. Llewellyn Smith, M.A., B.Sc.
*George Udny Yule.

Those marked * are new Members of Council.

TREASURER.

Richard Biddulph Martin, M.A., M.P.

HONORARY SECRETARIES.

Major P. G. Craigie. | Noel A. Humphreys.
Jervoise A. Baines, C.S.I.

HONORARY FOREIGN SECRETARY.

Major P. G. Craigie.

The abstract of receipts and payments, and the balance sheet of assets and liabilities on 31st December, 1897, are subjoined, together with the report of the Auditors on the accounts for the year 1897:—

(I.)—ABSTRACT *of* RECEIPTS *and* PAYMENTS *for the* YEAR *ending* 31*st* DECEMBER, 1897.

RECEIPTS.	£	s.	d.
Balance in Bank, 31st December, 1896 ... £335 11 9			
Balance of Petty Cash. 35 12 7			
" Postage Account 2 8 –			
	373	12	4
Dividends on 2,900*l.* Consols.....	77	2	–
Annual Subscriptions:—			
43 Arrears..... £90 6 –			
648 for the year 1897 ..... 1,360 16 –			
10 in Advance ..... 21 – –			
701	1,472	2	–
7 Compositions.....	144	18	–
Journal Sales	157	6	9
Advertisements in Journal	6	–	6
Total.....	£2,231	1	7

PAYMENTS.	£	s.	d.
Rent less Tax £314 3 4			
Less sublet ..... 62 10 –			
	251	13	4
Rates and Taxes	49	18	3
Fire, Lights, and Water	41	1	2
Furniture and Repairs	128	10	6
Salaries, Wages, and Pension ...	502	10	–
Journal, Printing..... £598 12 3			
" Shorthand Reporting 30 7 –			
" Literary Services 20 19 7			
	649	18	10
Ordinary Meeting Expenses	50	–	10
Advertising	40	1	3
Postage and delivery of Journals..	71	10	9
Stationery and Sundry Printing...	46	15	10
Library.....	50	7	8
Howard Medal	20	17	6
Guy Medal	1	10	–
Incidental Expenses	81	3	7
	1,985	19	6
Balance per Bank Book £220 8 6			
Balance of Petty Cash 20 5 10			
" Postage Account 4 7 9			
	245	2	1
Total	£2,231	1	7

(Signed) "CHAS. ATKINSON,
"A. H. BAILEY,
"THOMAS A. WELTON, F.C.A., } *Auditors.*"

"2*nd February*, 1898.

(II.)—Balance Sheet *of* Assets *and* Liabilities *on* 31*st* December, 1897.

LIABILITIES.	£ s. d.	£ s. d.
Harrison and Sons, for Journal	156 13 –	
Miscellaneous, as per list	45 7 10	
		202 – 10
10 Subscriptions received in advance		21 – –
		223 – 10
Balance in favour of the Society*		6,393 19 2
		£6,617 – –

ASSETS.	£ s. d.	£ s. d.
Cash Balances		245 2 1
2,900*l.* New 2¾ per cent. Consols cost		2,760 14 5
Property: (Estimated Value of)—		
Books in Library	£1,500	
Journals, &c., in Stock	1,500	
Pictures, Furniture, and Fixtures	500	
		3,500 – –
Arrears of Subscriptions recoverable		70 – –
Sundry debtors		41 3 6
		£6,617 – –

(Signed) "Chas. Atkinson,
"A. H. Bailey,
"Thomas A. Welton, F.C.A., } *Auditors.*"

"2*nd February*, 1898.

* This balance is exclusive of the present value of the absolute Reversionary Interest bequeathed to the Society by the late Dr. Guy.

(III.)—Building Fund (Established 10*th July*, 1873), Balance Sheet, *on* 31*st* December, 1897.

LIABILITIES.	£ s. d.	£ s. d.
Amount of Fund invested from last Account	267 9 8	
Balance from 1895 and 1896 to be invested	14 4 9	
		282 4 5
Dividends received during 1897		8 10 4
		£290 14 9

ASSETS.	£ s. d.	£ s. d.
Invested as per last Account in Metropolitan Consolidated 3½ per Cent. Stock, in the name of the Treasurer, Richard B. Martin, Esq., M.P...	Stock. 251 15 3	Cost. 267 9 8
Balance from 1895 and 1896 to be invested	14 14 9	
Balance from 1897 to be invested	8 10 4	
		23 5 1
		£290 14 9

(Signed) "A. H. Bailey,
"Chas. Atkinson,
"Thomas A. Welton, F.C.A., } *Auditors.*"

"2*nd February*, 1898.

"REPORT OF THE AUDITORS FOR 1897.

"*The Auditors appointed to examine the Treasurer's Accounts of the Society for the Year* 1897,

"REPORT:—

"*That they have compared the Entries in the Books with the several Vouchers for the same, from the* 1*st January to the* 31*st December*, 1897, *and find them correct, showing the Receipts (including a Balance of* 373*l.* 12*s.* 4*d.*, *from* 1896) *to have been* 2,231*l.* 1*s.* 7*d.*, *and the Payments* 1,985*l.* 19*s.* 6*d.*, *leaving a Balance in favour of the Society of* 245*l.* 2*s.* 1*d. at the* 31*st December*, 1897.

"*They have also had laid before them an Estimate of the Assets and Liabilities of the Society at the same date, the former amounting to* 6,617*l.*, *and the latter to* 223*l.* 10*s.*, *leaving a Balance in favour of the Society of* 6,393*l.* 19*s.* 2*d.*, *exclusive of the present value of the absolute Reversionary Interest bequeathed to the Society by the late Dr. Guy.*

"*The amount standing to the credit of the Building Fund at the end of the year* 1897 *was* 290*l.* 14*s.* 9*d.*, *of which* 267*l.* 9*s.* 8*d. was invested in* 251*l.* 15*s.* 3*d. Metropolitan Three and a Half per Cent. Stock, in the name of the Treasurer, Richard B. Martin, Esq., M.P., thus leaving a balance of* 23*l.* 5*s.* 1*d. to be invested.*

"*They have verified the Investments of the Society's General Funds and Building Fund, and also the Banker's Balance, all of which were found correct.*

"*They further find that at the end of the year* 1896 *the number of Fellows on the list was* 910, *which number was diminished in the course of the year to the extent of* 58, *by Death, Resignation, or Default, and that* 40 *new Fellows were elected, leaving on the list on the* 31*st December*, 1897, 892 *Fellows of the Society.*

(Signed) "A. H. BAILEY,
"CHAS. ATKINSON,
"THOMAS A. WELTON, F.C.A., } *Auditors.*"

2*nd February*, 1898.

Proceedings *of the* Sixty-fourth Annual General Meeting.

The Right Hon. Leonard H. Courtney, M.A., M.P., President, in the Chair.

The circular convening the meeting was read.

The minutes of the last ordinary meeting having been read and confirmed,

The Assistant Secretary read extracts from the Report of the Council, and

The President moved "that the Report of the Council, the Abstract of Receipts and Payments, the Balance Sheet of Assets and Liabilities, and the Report of the Auditors for 1897 be adopted, entered on the minutes, and printed in the *Journal*."

Mr. Thomas G. Ackland seconded the motion.

The resolution for the adoption of the report was then put, and carried unanimously.

Mr. Thomas G. Ackland and Dr. Ginsburg having been appointed Scrutineers of the Ballot for the election of the Council and Officers for the ensuing session,

The President announced, whilst the ballot was being taken, that under Rule 9 the names of five Fellows had been removed from the list in default of payment of their subscriptions.

It was also announced that the subject for the next competition for the Howard Medal would be "The Sentences on and Punishments of Juvenile Offenders in the Chief European Countries and the United States."

It was then announced that the proposed list of Council and Officers for the ensuing session had been unanimously adopted, and thanks were voted to the Scrutineers for their services.

Mr. J. O. Newmann proposed "that a cordial vote of thanks be given to the President, Council, and Officers for their services during the past session, and to the President for presiding on the present occasion."

The Rev. W. D. Morrison seconded the resolution, which was carried unanimously.

Local Taxation *in* London. *By* G. Laurence Gomme.

[Read before the Royal Statistical Society, 17th May, 1898.
A. E. Bateman, Esq., C.M.G., in the Chair.]

The primary fact which governs the amount of local taxation is the expenditure of local government authorities. In London this expenditure is incurred by four county authorities, sixteen district authorities, seventeen union authorities, thirty-four special district authorities and 331 parish authorities. The total expenditure incurred in London in 1895-96 by these several authorities was as follows:—

	£	£
1. *County Authorities*—		
London County Council	2,206,651	
School Board for London	2,337,156	
Metropolitan Asylums Board	451,292	
,, police	1,485,197	
		6,480,296
2. *District Authorities*—		
City of London Corporation	789,434	
,, Commissioners of Sewers	263,330	
District boards (12)	555,226	
Library commissioners (2)	2,684	
		1,610,674
3. *Union Authorities*—		
Boards of guardians (17)		1,318,275
4. *Special District Authorities*—		
Sick asylum district managers (2)	32,589	
School district managers (6)	122,432	
Library commissioners (1)	2,570	
Wards of the City of London (25)	6,931	
		164,522
5. *Parish Authorities*—		
Vestries (29) and 1 local board	1,938,641	
Boards of guardians (14)	1,163,851	
Overseers or bodies acting as overseers (192)	200,149	
Library commissioners (27)	59,135	
Baths commissioners (29)	137,093	
Burial boards (29)	55,523	
Market trustees (1)	8,076	
Churchwardens (9)	9,899	
		3,572,367
Total expenditure which governs the amount of local taxation	—	13,146,134

This expenditure is for the following purposes:—

Purpose.	Local Authority incurring Expenditure.	Amount.	
		£	£
Maintenance of the poor in workhouses, &c.	Metropolitan Asylums Board	342,993	
	Boards of guardians	1,549,332	
	Sick asylum district managers	27,050	
	School district managers	90,287	
			2,009,662
Maintenance of the poor (outdoor)	Boards of guardians	—	261,069
Maintenance of lunatics	London County Council	59,469	
	City of London Corporation	2,464	
	Boards of guardians	360,410	
			422,343
Education	London County Council	76,560	
	School Board for London	1,851,704	
	City of London Corporation	63,426	
	Vestries	495	
			1,992,185
Roads, dust removal, bridges, embankments, &c.	London County Council	38,124	
	City of London Corporation	26,635	
	,, Commissioners of Sewers	94,562	
	Vestries and district boards	1,377,600	
			1,536,921
Sewerage and drainage	London County Council	185,065	
	City Commissioners of Sewers	17,252	
	Vestries and district boards	185,368	
			387,685
Public health	London County Council	20,696	
	City of London Corporation	13,201	
	,, Commissioners of Sewers	7,947	
	Vestries and district boards	80,310	
	Overseers	110	
			122,264
Lighting	City Commissioners of Sewers	21,906	
	Vestries and district boards	253,595	
	Overseers	189	
			275,690
Police and magistracy	London County Council	98,260	
	Metropolitan police	1,413,767	
	City of London Corporation	185,982	
			1,698,009
Fire Brigade	London County Council	—	153,827
Parks, gardens, and open spaces	London County Council	107,042	
	City of London Corporation	10,032	
	Vestries and district boards	17,522	
	Overseers	605	
	Churchwardens	477	
			135,678

Purpose.	Local Authority incurring Expenditure.	Amount.	
		£	£
Other ordinary services	London County Council	82,412	
	Metropolitan police	29,282	
	City of London Corporation	146	
	,, Commissioners of Sewers	8,331	
	Vestries and district boards	27,736	
	Boards of guardians	41,453	
	Overseers	64,186	
			253,546
Loans for all services	—	—	2,815,018
Establishment for all services where not separately charged	—	—	660,591
Special services	London County Council	6,695	
	Metropolitan police	23,789	
	City of London Corporation	151,780	
	,, Commissioners of Sewers	5,631	
	Vestries and district boards	25,979	
	Library commissioners	50,815	
	Boards of guardians	2,536	
	Wards of City of London	6,931	
	Overseers	4,625	
	Baths commissioners	85,885	
	Burial boards	40,517	
	Market trustees	7,041	
	Churchwardens	9,422	
			421,646
			13,146,134

It should be noted here that the amount stated as expenditure of the Metropolitan police is the apportioned amount between London and extra-London of the total expenditure of the Metropolitan police authorities, the basis of the apportionment being rateable value. This can only be regarded as approximately correct. The expenditure incurred on behalf of London in respect of the police may be less or greater than the proportion based upon rateable value, but as the actual expenditure is not ascertainable, this proportion is the best means of reducing the total to a London figure.

This total expenditure (13,146,134*l.*) does not fall wholly upon taxation. A portion of it is met by certain receipts-in-aid, and a portion is defrayed out of revenue from municipal property. Taxation is therefore relieved by the amount of these two items of receipt. They are as follows:—

Authorities.	Repayment for Services.	Receipts-in-Aid.	Revenue from Municipal Property.	Total.
1. *County Authorities*—	£	£	£	£
London County Council	32,386	29,961	102,135	164,482
School Board for London ...	5,778	296	650	6,724
Metropolitan Asylums Board	2,827	—	—	2,827
,, police	205,801	5,679	—	211,480
	246,792	35,936	102,785	385,513
2. *District Authorities*—				
City of London Corporation	72,868	48,263	410,332	531,463
,, Commissioners of Sewers	12,262	1,685	5,600	19,547
District boards	30,032	17,711	4,125	51,868
Library commissioners	22	91	—	113
	115,184	67,750	420,057	602,991
3. *Union Authorities*—				
Boards of guardians	28,493	3,957	1,101	33,551
4. *Special District Authorities*—				
Sick asylum district managers	9	107	—	116
School district managers	1,129	365	10	1,504
Library commissioners	—	74	—	74
Wards of the City of London	—	—	—	—
	1,138	546	10	1,694
5. *Parish Authorities*—				
Vestries and local board	126,611	11,598	14,792	153,001
Boards of guardians	28,387	1,126	840	30,353
Overseers or bodies acting as overseers	2,332	2,866	16,742	21,940
Library commissioners	723	3,895	324	4,942
Baths ,, ...	63,755	786	1,222	65,763
Burial boards	5,274	430	698	6,402
Market trustees	—	71	5,522	5,593
Churchwardens	—	—	1	1
	227,082	20,772	40,141	287,995
Total receipts in reduction of local expenditure	618,689	128,961	564,094	1,311,744

The comparative value of these several receipts is not brought out by the amounts in money, but can best be shown by reducing them to percentages of rateable values of the areas administered by the several authorities concerned. This is done in the following table :—

Authorities.	Total Expenditure Per Cent. of Rateable Value.	Receipts Per Cent. of Rateable Value.								Net Expenditure Per Cent. of Rateable Value.
		Repayment for Services.		Receipts-in-Aid.		Revenue from Municipal Property.		Total Deductions.		
	£ s. d.	£ s. d.		£ s. d.		£ s. d.		£ s. d.		£ s. d.
1. *County Authorities*—										
London County Council { General	5 8 10	– 1 6		– 1 1		– 5 3		– 7 10		5 1 –
London County Council { Special	1 3 –	– – 6		– – 10		– – 9		– 2 1		1 – 11
School Board for London	6 16 7	– – 4		—		– – 1		– – 5		6 16 2
Metropolitan Asylums Board	1 6 7	– – 2		—		—		– – 2		1 6 5
,, police	4 19 –	– 13 9		– – 4		—		– 14 1		4 4 11
2. *District Authorities*—										
City of London Corporation	18 14 4	1 14 7		1 2 10		9 14 7		12 12 –		6 2 4
,, Commissioners of Sewers	6 5 9	– 5 10		– – 10		– 2 8		– 9 4		5 16 5
District boards	8 15 7	– 9 7		– 5 7		– 1 4		– 16 6		7 19 1
Library commissioners	– 6 8	– – 1		– – 3		—		– – 4		– 6 4
3. *Union Authorities*—										
Boards of guardians	6 14 –	– 2 11		– – 5		– – 1		– 3 5		6 10 7
4. *Special District Authorities*—										
Sick asylum district managers	– 19 8	—		– – 1		—		– – 1		– 19 7
School district managers	– 11 11	– – 1		– – 1		—		– – 2		– 11 9
Library commissioners	– 8 1	—		– – 3		—		– – 3		– 7 10
Wards of the City of London	– 3 3	—		—		—		—		– 3 3
5. *Parish Authorities*—										
Vestries and local board	8 2 5	– 9 4		– 1 –		– 1 3		– 11 7		7 10 10
Boards of guardians	8 – 8	– 3 11		– – 2		– – 1		– 4 2		7 16 6
Overseers, &c.	– 11 9	– – 2		– – 2		– 1 –		– 1 4		– 10 5
Library commissioners	– 7 3	– – 1		– – 6		—		– – 7		– 6 8
Baths ,,	– 11 11	– 5 7		– – 1		– – 1		– 5 9		– 6 2
Burial boards	– 5 3	– – 6		—		– – 1		– – 7		– 4 8
Market trustees	3 12 4	—		– – 7		2 9 6		2 10 1		1 2 3
Churchwardens	– 7 2	—		—		—		—		– 7 2
Total for all authorities	38 8 3	1 16 2		– 7 6		1 12 11		3 16 7		34 11 8

Although the largest total is in respect of repayments for services, this is not the most important item. It is largest in the city of London, where the school fees of the city schools make a very considerable item. With this exception the items are small, and consist of various services paid for by relatives of paupers for their keep, in the case of guardians, by householders and others for opening ground and connecting gas, water, and other pipes in the case of vestries and district boards, employment of police by private firms, and so on.

The principal head of receipt is revenue from municipal property, the largest amounts of which are received by the City of London Corporation, the London County Council, the City Commissioners of Sewers, the vestries and the overseers. The

property belonging to the city corporation is partly municipal property which can be used for any purpose determined by the corporation, and partly trust property which can only be applied to certain specific purposes. The receipts under each of these heads are as follows—

	£
Municipal property	306,394
Trust property	103,938
	410,332

These receipts in aid of taxation are of two different kinds, which it is of importance to note in connection with the economic results of taxation. The receipts from ancient city and parish property, and from fees, fines, &c., are not relative to expenditure, that is to say, they are not a lessening of expenditure, but rather independent receipts which lessen taxation. On the other hand, the receipts from municipal property held as products of local improvements, and receipts for services rendered are relative to expenditure, and, therefore, strictly speaking, result in a lessening of expenditure before it becomes a charge upon taxation. There are therefore two classes of receipts, as follows :—

	£
(*a.*) Receipts which lessen expenditure....	618,689
(*b.*) ,, reduce taxation	693,055
	1,311,744

The balance of expenditure which fell upon taxation in the year 1895-96 may with these figures be summarised as follows :—

	£
Total expenditure	13,146,134
Less receipts in relation to expenditure	618,689
Expenditure primarily to be met by taxation	12,527,445
Less receipts from city and parish property, and from receipts-in-aid, which relieve taxation	693,055
Expenditure finally to be met by taxation....	11,834,390

This expenditure was incurred by the several authorities as follows :—

1. *County Authorities*—	£	£
London County Council	2,042,169	
School Board for London	2,330,432	
Metropolitan Asylums Board	448,465	
,, police	1,273,717	
		6,094,783

	£	£
2. *District Authorities*—		
City of London Corporation	257,971	
„ Commissioners of Sewers	243,783	
District boards	503,358	
Library commissioners	2,571	
		1,007,683
3. *Union Authorities*—		
Boards of guardians		1,284,724
4. *Special District Authorities*—		
Sick asylum district managers	32,473	
School district managers	120,928	
Library commissioners	2,496	
Wards of the city	6,931	
		162,828
5. *Parish Authorities*—		
Vestries and local board	1,785,640	
Boards of guardians	1,133,498	
Overseers or bodies acting as overseers	178,209	
Library commissioners	54,193	
Baths commissioners	71,330	
Burial boards	49,121	
Market trustees	2,483	
Churchwardens	9,898	
		3,284,372
Total expenditure falling upon taxation		11,834,390

The taxation to meet this expenditure is divided into three classes. First, there is an amount appropriated to local taxation from imperial taxes, which amount is applied to local expenditure before such expenditure is sent down upon local taxation proper; secondly, there are certain indirect local taxes levied independently of what the local expenditure may be, and applied to such expenditure before it is sent down upon direct taxation; and thirdly, there is the final balance of expenditure left over after these operations, which is the measure of the direct taxation. The amount of this direct taxation is therefore, as a matter of fact, determined by the amount of expenditure thus left over. Of the three divisions of local taxation, the first, appropriations from imperial taxes, and the second, local indirect taxation, are fixed according to rules, independent of municipal expenditure, that is, upon rules sanctioned by Parliament and not determined by the local authorities; while the third division only, direct taxation, is governed by the amount of municipal expenditure, and is under the control of local authorities. The total taxation is a measure of the municipal expenditure, but direct taxation alone bears the pressure of increased or receives the benefit of decreased municipal expenditure.

In the year 1895-96 the local expenditure in London was met by each of the three classes of taxation as follows:—

		£	£
A. *Appropriations from Imperial taxes*—			
London County Council		526,161	
School Board for London		650,224	
Metropolitan police		616,347	
			1,792,732
B. *Indirect local taxation*—			
County taxation—			
London County Council	76,219		
Metropolitan police	28,815		
City of London Corporation	134,282		
		239,316	
District taxation—			
City Commissioners of Sewers	8,117		
District boards	208		
		8,325	
Special district taxation—			
Market trustees		1,703	
Parish taxation—			
Vestries and local board	1,793		
Overseers	9,551		
Burial boards	37,578		
		48,922	
			298,266
C. *Direct local taxation*—			
County rating—			
London County Council	2,952,322		
School Board for London	1,631,612		
Metropolitan Asylums Board	422,982		
,, police	625,072		
Local Government Board	1,174,680		
		6,806,668	
District rating—			
City of London Corporation	78,848		
,, Commissioners of Sewers	252,877		
District boards	337,996		
Library commissioners	2,494		
		672,215	
Union rating—			
Boards of guardians		451,503	
Special district rating—			
Sick asylum district managers	31,085		
School district managers	120,965		
Library commissioners	2,658		
Wards of the city	6,965		
		161,673	
Parish rating—			
Vestries and local board	1,060,645		
Boards of guardians	371,706		
Overseers	225,556		
Library commissioners	53,479		
Baths commissioners	78,023		
Burial boards	12,755		
Churchwardens	10,452		
		1,812,616	
			9,904,675
Total local taxation			£11,995,673

I will now proceed to explain these different classes of taxation. The appropriations from imperial taxation include the sum collected in London from local licences, amounting to 438,644*l.*, and certain apportioned amounts of imperial taxation as follows :—

	£
Apportioned amounts of estate duty and beer and spirit duties appropriated by parliament to local taxation, and paid to the London County Council	79,085
Apportioned amounts of estate duty and beer and spirit duties appropriated by parliament to police purposes, and paid to the metropolitan police.....	612,741
Industrial school grants paid to the London County Council	8,432
Education grants paid to the London School Board	650,224
	1,350,482

The first of these apportioned items is arrived at by deducting the amount paid to the metropolitan police from the amount of these duties appropriated to London. This is not strictly in accord with the terms of the Local Government Act, 1888, which provides for the amount paid to the metropolitan police being deducted from the total appropriation to London of imperial taxes, *i.e.*, the above named duties together with the local licences. But inasmuch as the local licences are collected in London only, the incidence of this taxation falls upon London, and it is more correct from the point of view of taxation, to make the deduction for the police from the amount strictly appropriated from imperial taxation, leaving the local licences entirely for the use of London.

The first point to note about these appropriations of imperial taxation to local services is the diverse methods adopted, and the extraordinary complications which are produced between imperial and local finance. There are two additional matters which help to further complicate this relationship, namely, the appropriation to imperial purposes from the local taxation account of the cost of swine fever under the Diseases of Animals Act, 1894, and the grants under the Agricultural Rates Act, 1896. The first of these does not occur in the local taxation I am dealing with, because the expenditure is incurred by Government and paid for out of local taxation; the second does not occur because it did not come into operation until the year after that to which my figures relate. But for a proper consideration of these imperial grants to local taxation these matters must be included.

At present then there are no less than six methods of allocating imperial taxation to the relief of local rates. They are as follows :—

1. Licences, according to the amount collected within the

county or county borough areas, subject to an apportionment between counties and county boroughs under Section 32 of the Local Government Act, 1888.

2. Estate duty and customs and excise duties, according to the grants from imperial taxation actually made to the several local authorities within the county and county borough areas in the year 1887-88, but subject to special adjustment in one or two cases.

3. Police pension grant, according to an arbitrary decision of parliament founded on no basis beyond the immediate requirements of the London police.

4. Education grant, according to the results of education.

5. The cost of the Diseases of Animals Act, 1894, administered by the Board of Agriculture, an imperial department, and paid for out of the local taxation account, that is to say, paid for by the counties and county boroughs in proportion to the basis of apportionment under No. 2, with which it has nothing whatever to do, and not in proportion to the expenditure incurred.

6. The grants under the Agricultural Rates Act, 1896, according to the amount of rates paid upon agricultural lands.

The first method, that of appropriating local taxes collected in the county to the services of the county, is *primâ facie* a perfectly sound system.

The second method is arbitrary and not founded upon any principle of taxation which can be defended.

The discontinued grants which form the basis of this apportionment for London comprise the payments towards the cost incurred by guardians and other bodies in respect of lunatics, disturnpiked roads, salaries of poor law medical officers and teachers in poor law schools, payments to registrars of births and deaths, public vaccinators, medical officers and sanitary inspectors, the cost of criminal prosecutions, and of the metropolitan police.

The amount certified by the Local Government Board as the estimated receipts by London from the discontinued grants in 1887-88, was:—

	£
Lunatics	97,496
Poor Law medical officers	32,939
Teachers in Poor Law schools	12,513
Registrars of births and deaths	584
Vaccinators	2,030
Main roads	3,559
Criminal prosecutions	21,384
Medical officers and sanitary inspectors	—
Police	457,579
	628,084

These figures differ in amount from those given in the parliamentary return (C–5424, pp. 24 and 25) issued from the Local Government Board on 21st June, 1888, where the total appears at 623,917*l.*

These figures contain the local charges, and certain charges which have to be apportioned as between (1) Penge and Croydon, (2) the new county of London and the old counties, and (3) the new county of London and the police area. The apportionment was based upon rateable value, and a critical examination of the government certified figures is desirable. In a return (*see* "London Statistics," vol. iv, p. 569) an analysis of the receipts from grants in 1887-88 according to the published local taxation returns was given, the necessary apportionments being based on the rateable values in force for that year. The result showed a difference when compared with the figures given in the certificate of the Local Government Board; but not perhaps of sufficient importance to affect the question under consideration.[1] Adjusting these differences, the following might be taken as the analysis of the government certificate :—

	Paid to Local Authorities in London.	Paid to County Authorities and apportioned to London.		Total Grants.
		For Penge.	For County and other Areas.	
	£	£	£	£
Lunatics	92,018	276	5,202	97,496
Poor law medical officers	32,793	146	—	32,939
Teachers in poor law schools	12,513	—	—	12,513
Registrars of births and deaths	584	—	—	584
Vaccinators	2,030	—	—	2,030
Main roads	3,559	—	—	3,559
Criminal prosecutions	1,321	—	20,063	21,384
Police	—	—	457,579	457,579
	144,818	422	482,844	628,084

The construction of this table enables us to apportion the figures of previous years upon the same basis, and the following table shows the amounts received by London from imperial grants

[1] I have not had access to the government figures, but the printed analysis given in the local taxation returns has been used. Differences might occur owing to the published accounts containing the receipts *in* the year instead of the receipts *for* the year; that is, taking into account balances of a previous year paid in the year and balances for the year owing at the end. It has been assumed that the government certificate includes the necessary allowances in respect of Penge, but there is nothing to prove this.

in the five years to 1887-88, as compared with the amount certified in that year:—

Year.	Charges in respect of which the Government Grants were made.	London.		Rest of England.	
		Amount Received.	Per-centage.	Amount Received.	Per-centage.
1883-84	Union and county lunatics, poor law officers, main roads, criminal prosecutions, police, &c.	£ 558,243	22·57	£ 1,915,183	77·43
'84-85	Ditto	576,140	23·51	1,874,426	76·49
'85-86	Ditto	596,574	23·94	1,895,791	76·06
'86-87	Ditto	597,805	23·13	1,987,137	76·87
'87-88	Ditto	*618,984	21·95	2,200,775	78·05
'87-88	Certificate by the government	628,084	21·96	2,232,300	78·04

* This is exclusive of 2,530*l.* for vaccinators, which, not being included in the years 1883-84 to 1886-87, is not included in 1887-88 for the purposes of this comparative table.

The certificate includes an amount for vaccinators which, not being paid to local authorities, is not given in the Local Taxation Returns;[2] it also contains adjustments made under the provisions of the Local Government Act, which are not amounts paid. These would partly account for the difference in amount between the 618,984*l.* actually paid in 1887-88 and the 628,084*l.* certified; but they did not materially alter the ratio between London and the rest of England.

From the figures it would appear that the year 1887-88 was an unfortunate year so far as London is concerned, to have been chosen as the basis, because, in respect of the grants then certified, London received more than 1 per cent. less in proportion than it did in the three prior years.

The acceptance of this basis is to fix upon the cost in *one* year of certain specified charges as the ratio of apportionment of receipts for all *future* years and *for all requirements.*

A detailed criticism of the discontinued grants as certified will show the anomalies. The grants may be divided as follows:—

(i) Grants which London shared in full proportion to the rest of the country; namely, those in respect of poor law and criminal prosecutions.

(ii) Grants as to which London was at great disadvantage

[2] These payments are set out in the reports of the Local Government Board, but not arranged as between London and the rest of England.

with respect to the rest of the country; namely, main roads.

(iii) Grants in which London had no share whatever; namely, medical officers and sanitary inspectors.

(iv) Grants in respect of the police.

The grants under the first head (poor law, &c.) show the following proportions:—

	London.		Rest of Country.	
	Amount.	Per Cent.	Amount.	Per Cent.
	£		£	
1883–84...	145,757	16·67	728,347	83·33
'84–85.....	156,032	18·98	665,855	81·02
'85–86.....	165,797	19·74	674,231	80·26
'86–87.....	155,456	18·25	696,290	81·75
'87–88.....	164,860	19·66	673,879	80·34

The grants under the second head (main roads) show the following proportions:—

	London.		Rest of Country.	
	Amount.	Per Cent.	Amount.	Per Cent.
	£		£	
1883–84.....	1,975	1·00	194,898	99·00
'84–85.... ...	1,524	0·73	206,097	99·27
'85–86.....	1,731	0·76	227,366	99·24
'86–87.....	1,760	0·74	236,291	99·26
'87–88.....	3,559	0·72	490,870	99·28

The grant under the third head (salaries of medical officers of health and inspectors of nuisances) were as follows:—

	London.		Rest of Country.	
	Amount.	Per Cent.	Amount.	Per Cent.
	£		£	
1883–84.....	Nil	—	67,926	100
'84–85.....	,,	—	76,814	100
'85–86.....	,,	—	69,113	100
'86–87.....	,,	—	75,419	100
'87–88.....	,,	—	73,804	100

The grants under the fourth head (police) show the following proportions:—

	London.		Rest of Country.	
	Amount.	Per Cent.	Amount.	Per Cent.
	£		£	
1883-84.....	410,511	30·76	924,012	69·24
'84-85.....	418,584	31·14	925,660	68·86
'85-86.....	429,046	31·68	925,081	68·32
'86-87.....	440,589	31·03	979,137	68·97
'87-88.....	450,565	31·90	962,222	68·10

From these tables it is obvious that London is at a special disadvantage with reference to main roads and sanitation, and yet these are services in which, perhaps more than any other, the country at large is greatly interested. That the traffic of London for commercial and other purposes should be assisted by the best means of communication is one of the most important of London necessities, and at the same time one in respect of which it receives the least assistance from imperial taxation.[3]

The peculiar operation of the exchequer contribution for police purposes deserves special attention. Previous to 1888 it was a sum equal to 4*d.* in the £ on the rateable value of the metropolitan police district, an amount which increased annually with the growth of rateable value. But in 1888 the exchequer grants to the county of London became a fixed proportion of a total sum, while the commissioners of police continued to demand from that sum the ever-increasing product of a 4*d.* rate. Thus the government, in 1887-88, contributed to the police fund in respect of the London proportion of that fund 457,579*l.*, and the county council has contributed in the six years under the Local Government Act an excess of 152,260*l.* beyond the last government contribution, as follows:—

	£
1889–90	186
'90–91	7,870
'91–92	15,928
'92–93	24,421
'93–94	31,758
'94–95	33,197
'95–96	38,900
	152,260

[3] By Section 22 (2) the particular cases of the Isle of Wight and South Wales main roads are met by a special addition to the discontinued grants for the purpose of the Local Government Board certificate. London therefore contributes proportionately to this special consideration of country roads at the same time as it suffers from the inadequacy of the grants for its own roads. The special additions amounted to 8,534*l.*—"Local Government Board Report, 1889-90," pp. xvi, 273 and 274.

Whatever the total amount of the exchequer grant to the county may be, the amount falling to the police is an increasing amount, while that falling to the county council must in consequence be proportionately diminished. As between the council and the police therefore the new arrangement is not satisfactory.

But the new apportionment is not satisfactory as between the county of London and the rest of the country, and at this point the ratepayers of the county are directly interested. The proportion allotted to each county out of the exchequer contributions is based upon the total grants made in the year 1887. These grants included the police grant. In London this was four-ninths of the cost of the metropolitan police falling upon the rates, while in the country it was one-half the cost of pay and clothing. But the four-ninths taken as the London grant, was not four-ninths of the entire cost of the London police, because it did not include any grant in respect of the city of London police, nor was it four-ninths of the total cost of the metropolitan police, because a certain portion of the total cost was charged upon fees, licences, &c., instead of upon rates. In these two respects therefore the comparison between London and the rest of the country cannot be expressed in the terms four-ninths of total cost and one-half of pay and clothing respectively.

The neglect of the consideration that the city did not participate in the government grant, has placed London at a disadvantage as compared with other counties by causing other counties to get more, because London in the past has paid a portion of its police which would otherwise have been paid by government. Before 1887 it was merely a question between the city of London and the imperial exchequer, but owing to the method of calculation imposed by the Act of 1888, it has become a question between the county of London and the rest of the country. There is no reason why other counties should benefit at the expense of London, but London should receive its proper proportion, let the distribution within London be what it may. In other words, the payment out of the city estates should act as a benefit to London, and not to other county areas, which divide amongst them the total sum derived from exchequer contributions. Had the government contributed to the city police in the same manner as to the metropolitan police, their contribution would have been four-ninths of the cost, which, in 1887, would have amounted to 53,897*l.*, equal to a rate of 0·42*d.* in the £.

Turning next to the grant compared with total cost, the amount has to be considered in its relation to payments by London ratepayers for the police. These payments are not only rates, but also hackney carriage licences, fines, penalties, &c. The

total charge upon London for the metropolitan police (excluding the pension fund) is as follows:—

	d.
Rates collected directly	5·00
Exchequer contribution	4·00
Hackney carriage licences	0·23
Fines, penalties, &c.	0·04
Showing the total cost to the ratepayers to be	9·27

The comparison between London and the rest of the country, after taking into account these two considerations, shows that London gets $\frac{4}{9\cdot69}$ of the total cost as against the country's half cost of pay and clothing. It is difficult to compare these two figures with the limited information at hand, but, so far as it is possible to go, the comparison tells against London. Thus in 1887-88 the local taxation accounts give the total cost of police in boroughs as 940,313*l.*, of which 892,145*l.* was for pay and clothing, and towards which 386,266*l.* was paid in the year by the exchequer. Assuming that the full half cost of pay and clothing was paid in due course, the fraction $\frac{446,072}{940,313}$ represents 0·47 of the entire cost of police to have been paid out of the exchequer grant in boroughs as against 0·41 (the equivalent of the fraction $\frac{4}{9\cdot69}$ quoted above) in London. This comparison too does not take into consideration the question of the extra total cost to London by reason of the imperial character of the metropolitan police force, nor of the cost of London police being increased by exceptional charges for police stations. If it is urged that the grant to London should have been limited to half the cost of pay and clothing of the entire London police, that is including the city, London's share in 1887 would have been 436,010*l.*, instead of the present 457,579*l.*; but this way of looking at the matter would leave the entire question of the cost of the imperial services of the metropolitan police to be dealt with as a matter between London and the government, and in the meantime it would open up a serious question for the consideration of the rest of the country in respect of the share obtained by London from the exchequer contribution account. If the amount of the grant over and above the half cost of pay and clothing is in part payment of the imperial duties of the police, it ought to be paid directly by the government, instead of from the funds set aside for distribution to the counties on an assumed equitable basis.

Upon this artificial basis, which it has taken so long to explain, the amount of imperial taxes now allocated to local taxation in London has been as follows:—

Year.	Share of Estate Duty.	Share of Beer and Spirit Duties.	Total.	Yearly Increase or Decrease.
	£	£	£	£
1889–90.....	397,774	....	397,774	....
'90–91.....	423,995	162,572	586,567	+ 26,221
'91–92.....	493,825	179,134	672,959	+ 86,392
'92–93.....	421,248	172,569	593,817	− 79,142
'93–94.....	415,105	172,759	587,864	− 5,953
'94–95.....	358,538	165,844	524,382	− 63,482
'95–96.....	398,267	178,558	576,825	+ 52,443
	2,908,752	1,031,436	3,940,188	....

This is 21·96 per cent. of the total amount devoted to the local taxation of England and Wales, and 17·57 per cent. of the total amount devoted to the local taxation of the United Kingdom. But before the amount is divided upon an artificial basis among the counties and county boroughs of England and Wales and the corresponding units of Scotland and Ireland, the total amount transferred from the imperial exchequer to local taxation is divided, again upon an artificial basis, between the three countries, the following being the proportions:—

England and Wales	80 per cent.
Scotland	11 „
Ireland	9 „

The amount allocated to each area therefore depends not only upon the correctness of the basis adopted for each locality, but also upon the correctness of the basis adopted for each of the three countries, and a more complex or artificial method of taxation can scarcely be conceived.

I hesitate to say what is the incidence of these taxes allocated to local taxation. Of course, because they are legally taken from the estate duty and the beer and spirit duties, it does not follow that they actually fall upon those duties. It can be argued with some force that they fall upon imperial taxation generally and not upon any one class of tax. But there is much, in my opinion, to show that this is not quite the fact. Imperial taxation consists of two classes, the permanent class and the shifting class. By the permanent class I mean taxes which are imposed, not with regard to the expenditure they have to meet, but with regard to the interests they tax. They would not be changed from year to year. By the shifting class I mean taxes which are readily changed from year to year as necessity arises. Thus the licences, estate duty, and beer and spirit duties are not fixed in reference to the calls upon them for grants to local taxation, but in reference to the principles governing those classes of taxation. They are fixed,

not to meet the expenditure on particular services, but according to the expediency of imposing certain particular taxes. It follows from this that any increase in grants from imperial funds to local taxation would fall, not upon the taxes on which they are nominally charged, but upon the taxes which can be increased or decreased according to necessity, in other words, upon the shifting elements of taxation and not upon the permanent elements. The shifting elements, if I may so express myself, of the existing system of taxation are :—

(1) The income tax.

(2) Such of the customs and excise duties as can be altered having regard to their regulative character.

Customs and excise duties are now rarely increased, the tendency being to decrease them (see Parliamentary Return, Customs Tariffs of the United Kingdom, 1800-97). It may be noted in confirmation of this that the Chancellor of the Exchequer, in his present budget, proposes to reduce the duty on tobacco. The duty on tea, coffee, and cocoa also is often suggested as one which should be remitted at the earliest opportunity.

I think, therefore, that these grants allocated from imperial taxation to local taxation fall really upon the income tax and upon those custom duties which are ready for abolition or reduction; and I think this incidence is most unjust and contrary to all principles of local taxation.

I have nothing to say about the police pension grant. It is a grant, and that is all that can be said of it.

There is next the education grant. This is made out of the consolidated fund, and no special taxation is created for it. Moreover, education is to all intents and purposes an imperial service. It therefore falls upon the several classes of imperial taxation proportionately, just as all national services would fall. With the assistance of Sir Alfred Milner's tables, "Royal Commission on "Agriculture," vol. iv, pp. 582 and 583, the following results have been obtained, to show the incidence of imperial taxation :—

Classes of Taxation.	Land and other Rateable Property.	Non-Rateable Property.	Incomes from Personal Earnings.	Consumers.
Customs	—	—	—	20,138,948
Excise	—	—	—	25,875,626
Death duties	3,301,612	5,452,732	—	—
Stamps	1,425,371	1,578,828	—	2,829,142
House duty	1,462,373	—	—	—
Income tax	5,598,570	5,379,846	4,670,946	—
Post office and telegraphs (net)	—	—	—	3,077,000
	11,787,926	12,411,406	4,670,946	51,920,716
Percentage	14·59	15·36	5·79	64·26

This excludes land tax and revenue which is not taxation. The former is excluded because it is a fixed amount, not affected by the education grant one way or the other, and having its origin many years before the cost of education was thrown upon the exchequer. The latter is excluded because it relieves the permanent crown services, and would not affect the education grant.

Of the total grant received by London for education in the year under review (1895-96) therefore the following are the amounts received from each class of taxation:—

	Amount of the Tax.	Incidence of the Tax.			
		Land and other Rateable Property.	Non-Rateable Property.	Incomes.	Consumers.
Customs	162,083	—	—	—	162,083
Excise	208,253	—	—	—	208,253
Death duties	70,457	26,572	43,885	—	—
Stamps	46,948	11,472	12,707	—	22,769
House duty	11,770	11,770	—	—	—
Income tax	125,949	45,059	43,298	37,592	—
Post office and telegraphs	24,764	—	—	—	24,764
	650,224	94,873	99,890	37,592	417,869

I next come to the Diseases of Animals Act, 1894. Under that Act if in any financial year the money standing to the cattle pleuro-pneumonia account for Great Britain is insufficient to defray the costs and expenses under that Act, the Local Government Board may deduct from the local taxation account and pay into the cattle pleuro-pneumonia account such sums as may be certified by the Board of Agriculture to be required; so that, having allocated a certain amount of imperial taxation for local taxation purposes, it is dipped into for imperial purposes. The process is, to say the least of it, bewildering. The "money standing to the pleuro-pneumonia account" consists of the amount voted by Parliament from year to year and the amounts recovered by the sale of carcases.

The following table shows the expenditure out of the cattle pleuro-pneumonia account for Great Britain, and the manner in which it has been met for the last five years for which the figures are published.

From this table it will be seen that prior to the year 1894-95 the expenditure out of this account was borne by the imperial exchequer. Since that date (*i.e.*, after the passing of the Diseases of Animals Act, 1894) the bulk of the expenditure has been

defrayed out of amounts deducted from the local taxation account under the powers mentioned above, and the contributions to local authorities out of that account have been correspondingly reduced.

	1891-92.	1892-93.	1893-94.	1894-95.	1895-96.
Expenditure—	£	£	£	£	£
Salaries and travelling expenses	15,089	9,494	19,346	60,908	67,109
Compensation for animals slaughtered	145,843	42,512	52,467	115,070	120,350
Miscellaneous expenses	9,532	3,795	9,574	29,114	29,305
Total	170,464	55,801	81,387	205,092	216,764
Receipts in aid—					
Salvage on carcases	57,396	16,840	20,350	30,420	27,223
Expenditure falling on taxation	113,068	38,961	61,037	174,672	189,541
Imperial taxation—Vote	185,000	50,000	15,000	35,000	25,000
Local taxation—					
Local taxation (England) account	....	....	....	79,200	145,200
Local taxation (Scotland) account	....	....	....	10,800	19,800
Balance increased or decreased	+71,932	+11,039	−46,037	−49,672	+ 459

The amounts withdrawn from the local taxation (England) account have been as follows :—

	£
1894-95	79,200
'95-96	145,200
'96-97	105,600

These amounts are deducted from the estate duty grant, which is apportioned among the counties and county boroughs on the basis of the old grants, and the amounts thereby deducted from the grant receivable by London are as follows :—

	£
1894-95	17,391
'95-96	31,883
'96-97	23,188

The bulk of the expenditure out of the pleuro-pneumonia account is now for swine fever, and there can be no doubt that the cost to London would be far less if the expenditure was met locally. It is not of course possible to ascertain exactly what would be the cost to London of dealing with swine fever, but the number of animals may be taken as some indication of London's proportion of the cost. In 1896, according to the Board of Agriculture returns, the number of swine in London was only 0·1 per cent. of the number in England and Wales, while London contributes to the cost of swine fever through the local taxation account at a proportion of 22 per cent. of the whole country.

With reference to the grants under the Agricultural Rates Act, the analysis of the recent government return is as follows :—

	London.			Rest of the Country.		
	£	*s.*	*d.*	£	*s.*	*d.*
County councils	931	10	2	328,267	11	6
Borough ,, ...	—			18,121	3	4
Urban district councils.....	—			5,366	5	8
Rural ,, ,, ...	—			327,091	3	10
Guardians	1,214	16	7	504,844	10	5
Metropolitan police	322	5	2	4,067	9	6
School boards.....	705	10	–	106,641	13	8
Highway boards.....	—			16,368	7	–
Surveyors of highways.....	—			18,570	5	–
	3,174	1	11	1,329,338	9	11

This amount, 3174*l.* 1*s.* 11*d.*, being paid for out of the consolidated fund, that is, it is paid for not out of increased taxation specially raised to meet it, but out of general taxation, is practically divided among the several classes of imperial taxation in much the same way as the education grants.

This Act introduces the system of paying a proportion of rates levied. It is limited to rates upon one particular class of property —a class not favourable to London and other urban districts, namely, agricultural land ; and it raises more than any other class of appropriation of imperial taxation, the issue as to whether the recipient areas get back proper proportions of taxation which they pay to the State. I know of no Act of Parliament which has so violently disturbed every principle of local taxation.

Like almost everything else in matters of public concern in this country, the present complications between imperial and local taxation have been the growth of some years—a growth which has been allowed to proceed without adequate, or indeed any consideration as to results.

The practice of making grants from the imperial funds in aid of local taxation was commenced in 1833, by a grant towards the cost of the metropolitan police, and it has been extended from time to time by grants towards the following services :—

1835. Criminal prosecutions.
'46. Teachers in poor law schools and poor law medical officers.
'56. Police (counties and boroughs).
1865-66. Metropolitan Fire Brigade.
1870. Education.
1873-74. Medical officers and sanitary inspectors.
1874. Pauper lunatics.
'75. Registration of births and deaths.
'76. Industrial schools.
'82. Disturnpiked and main roads.
'91. Education—fee grant.

Up to 1888 these grants were made direct to the authorities who spent the money, and were a fixed proportion of the amount spent, being subject to a check by the imperial authority by means of a proper system of audit and by provisions for disallowances. The very important departure in 1888 made in the method of fixing the amount of all these grants, except those for education and the fire brigade, is thus shown to be not only a matter of amount but of principle, and one which has very important bearings upon the relationship of local taxation to imperial taxation and upon the operation of local taxation. This departure has been followed up, as I have shown, by other innovations in 1894 and in 1896, and I think it has become almost hopeless to understand what local taxation now is.

The relationship of imperial to local taxation is one of great moment in the interests of the taxpayer. Changes are made by parliament in imperial taxation without any reference to how it may affect interests already touched by local taxation, and there is no corresponding power in local authorities to change the incidence of local taxation so as to rectify any injustice. This matter is becoming more and more of importance now that local government is called upon to do so much more in the interests of the people of each particular area, and I would refer to Professor Bastable's valuable work on "Public Finance" for the scientific exposition of this proposition.

There is further to observe that the artificial splitting up of taxes collected from individuals in all parts of the country, and not governed by local incidence, is beneficial neither to imperial nor to local finance. It depletes the national treasury of a sum which belongs by the incidence of the tax to the national area and not to local areas; it adds to the local treasuries sums which belong to the national area. The national tax so appropriated and the local taxation so relieved cannot be properly understood by the taxpayers in the same manner as a tax collected and applied within the area of its incidence, for it adds to the natural perplexities of taxation the perplexities of artificial arrangements. The taxpayer not being an expert cannot find out for himself how these matters work, either with reference to the imperial government or to the local government, and there are no statistics to help him. Moreover, this kind of taxation places local authorities in proportionate fiscal dependence upon the imperial government, which is not conducive to economy, while the fluctuations of increase or decrease from year to year, which in relation to the imperial exchequer do not cause any great dislocation of taxation from year to year, cause very considerable dislocation in local taxation. Thus the windfall in the year 1891-92 could not be made of effective use because of the

considerable proportion which it bears to total local taxation, and the uncertainty as to the amount which might normally be considered as proper to be set aside as relief to rates from imperial exchequer. On the other hand a serious drop, as in 1893-94, would send the rates up to a high figure, and cause a zigzag fluctuation in rates which is serious to many ratepayers.

I next come to the indirect local taxation. This consists of several items, of which the following are the distinguising kinds:—

	£
1. Licences, duties, &c., collected in the area of the county by the Inland Revenue Commissioners, and handed over to the London County Council	438,644
2. Tax upon fire insurance companies at 3*5l.* per million of insurance effected in the county of London, collected by and applied by the London County Council	29,635
3. Licences for petroleum, explosives, cowhouses, slaughter houses, locomotives, theatres, and sky-signs, fees in respect of dangerous structures and Building Act, collected by and applied by the London County Council	41,777
4. Licences for explosives and sky-signs, collected and applied by the City Commissioners of Sewers (dangerous structures are not separately stated, and cannot therefore be given)	3
5. Licences for petroleum and locomotives, collected and applied by the City of London Corporation	32
6. Fees payable for stamping weights and measures, collected and applied by the London County Council	4,807
7. The same, collected and applied by the City Commissioners of Sewers	747
8. Licences for public carriages, collected and applied by the Metropolitan police	28,616
9. Fees payable for certificates to pedlars and chimney sweeps, collected and applied by the Metropolitan police	199
10. Licences for advertisement hoardings, collected and applied by vestries and district boards and by the City Commissioners of Sewers	1,229
11. Market dues and tolls, collected and applied by the City of London Corporation	110,158
12. The same, collected and applied by the Woolwich Local Board, and the market trustees of Whitechapel and St. Saviour	9,139
13. Grain duty and fruit metage, collected and applied by the City of London Corporation	18,051
14. Fees from canal boats, collected and applied by the City of London Corporation	2
15. Burial fees, collected and applied by the vestries, burial boards, and City Commissioners of Sewers	47,832
16. Fees received from the City of London Court over and above the cost of maintaining the court and of salaries of judges and staff, collected and applied by the City of London Corporation	6,039

An important point to note in connection with this indirect taxation is that the area of taxation is not in all cases coincident

with the area of administration. Thus the Metropolitan police levy and receive the licence fees for hackney carriages in the city of London, though they have no police jurisdiction within the city; and although the levy extends throughout the entire area of greater London, it is nearly certain that the greater part of the amount is levied within the city and county of London, the result being an injustice to London, namely, that London taxation is not wholly applied to London matters. Secondly, there is the indirect taxation by way of grain duty and market tolls levied and applied by the City of London Corporation. The area of this taxation is far beyond the city boundary, to some extent beyond the county boundary. In respect of the grain duty, the City Corporation are bound by Act of Parliament to apply it to open spaces outside the area of the county, but presumably for the benefit of Londoners primarily, although the anomaly is not quite explained by the benefit which Londoners are supposed to receive from Epping Forest, Burnham Beeches, West Wickham Common, and other places. In respect of market tolls and dues the corporation apply the taxation derived from the county to purposes belonging to the city. This fact is of some importance, considering the frequent complaints of the city that they pay too much towards equalising the rates of the rest of London. Thirdly, there are the market dues and tolls levied by the local markets of Southwark, Whitechapel, and Woolwich. These taxes are paid by the consumers of an area much larger than the parishes, though they are applied to the benefit of the parishes only. These are anomalies which generally are not considered in connection with London taxation, but they are nevertheless of some importance when London taxation is being scientifically examined.

Finally, I come to direct local taxation. This amounted, as I have already stated, to 9,904,675*l.*, and is imposed by five different classes of authorities, namely, county authorities, district authorities, union authorities, special district authorities, and parish authorities. All authorities, except parish authorities, levy their rates by means of precepts sent down to the parish, the unit of valuation in all cases being the parish. The parish has to add the amount of the demands by precept to the amount of the parish rates, and to collect the whole sum from the ratepayers through one or other of the parish rates. The rates in London are poor rate, general rate, sewers rate, lighting rate, church rate, consolidated rate, and ward rate. The technical names of these rates, which are derived from a condition of things no longer existing, do not cover the items included under each rate. Thus, the poor rate includes the county rate, the police rate, the contributions assessed by the asylums board, the sick asylums managers, and

the school district managers, the overseers' charges, the library rate, the contributions assessed by the burial boards, together with the charges of the guardians for poor law purposes proper. The general rate includes the school board rate, the contributions assessed by the district boards, together with the charges of the vestries for general purposes under the Metropolis Management Act, 1855. The sewers rate includes the contributions assessed by the district boards and the charges by the vestries in respect of sewers under the Metropolis Management Act, 1855. The lighting rate includes the contributions assessed by the district boards and the vestry charge for lighting under the Metropolis Management Act, 1855. The consolidated rate is the rate levied by the City Commissioners of Sewers for all its purposes, except sewers, for which a separate rate is levied; the ward rate is the rate levied by the City of London Corporation for ward purposes; and the church rate is levied by the churchwardens and overseers in certain parishes for church purposes. There is the trophy or militia rate periodically levied by the Commission of Lieutenancy of the City of London.

The unit of levy by all precept authorities is the parish, according to the valuation prepared under the Valuation Metropolis Act, 1869, and the County Rates Act, 1852. The unit of levy of the parish authority is each individual hereditament entered in the parish valuation list, and it thus happens that the rates of the precept authorities reach the ratepayer not directly from each authority but indirectly through the parish.

Thus the parish bears county, district, union and parish taxation. It bears county taxation in that the levies by all the county authorities are made rateably upon the parish valuation, and are then transferred by the parish authorities to the taxpayers; it bears district and union taxation (whenever it occurs) in that levies by district boards and poor law unions are made rateably upon the parish valuation, and then transferred by the parish authorities to the taxpayers; it bears parish taxation directly through the parish authorities.

County taxation falls equally upon the rateable value of the parts of London which bear it; upon county taxation is superimposed the district and union taxation in those parts of London which bear this class of taxation; and then finally, in some parts of London, upon county taxation, district taxation, and union taxation, parish taxation is superimposed; in other parts upon union taxation and county taxation parish taxation is superimposed, while in other parts of London parish taxation is superimposed directly upon county taxation.

The fact that in all cases, except the city of London consoli-

dated rate, ward rate, and police rate, the ancient parish is the rating unit, brings into prominence the importance of the present relative positions of the several parishes. The area, population, valuation, and administrative importance of the parishes differ very considerably. There are in all 192 parishes in the administrative county of London, of which 30 are governed by administrative vestries for all local municipal matters, 42 have vestries with no administrative powers, 112 are parishes in the city of London whose civil powers are now of no importance, and 8 are places in Schedule C of the Metropolis Management Act. To show how unequally these parishes divide between them the area of the county of London, the following particulars as to the largest and smallest parish in each class are given:—

		Name of Parish.	Area in Acres.	Population, 1896.	Rateable Value, 1896.
					£
Administrative parishes	Largest	Camberwell	4,450	253,076	1,143,248
	Smallest	St. James	163	23,050	801,105
Non-administrative parishes	Largest	Lewisham	5,773	83,213	539,527
	Smallest	Old Artillery Ground	5	2,143	8,613
Parishes in the city of London	Largest	St. Botolph, Bishopsgate	44	1,744	186,570
	Smallest	St. John-the-Evangelist	¾	17	9,511

The separation of the ultimate rating unit into these small and varied areas must necessarily cause a differentiation of rating for which there is no adequate compensation.

Before however considering how this amount of expenditure of 11,834,390*l.* actually falls as taxation in London, it is necessary to point out two facts. The first is peculiar to London, namely, that there is considerable difference between the expenditure incurred by the various authorities and the taxation imposed by these authorities. Secondly, there is the increase or decrease of balances which occurred during the year. If a balance is increased, it is increased at the expense of the ratepayers of the year, while if a balance is decreased, the local authority has met part of the year's expenditure out of accumulated balances of past years. In both ways therefore balances affect the amount of expenditure which is finally borne by taxation. The following table shows the facts for 1895-96:—

Authorities.	Expenditure Incurred.	Balances.		Net Charge on Taxation after Accounting for Balances.
		Increased and added to Expenditure.	Decreased and deducted from Expenditure.	
1. *County Authorities*—	£	£	£	£
London County Council	2,042,169	117,802	—	2,159,971
School Board for London.....	2,330,432	—	48,596	2,281,836
Metropolitan Asylums Board	448,465	—	29,900	418,565
„ police	1,273,717	—	3,483	1,270,234
2. *District Authorities*—				
City of London Corporation ..	257,971	—	44,395	213,576
„ Commissioners of Sewers	243,783	24,579	—	268,362
District boards	503,358	24,148	—	527,506
Library commissioners	2,571	—	77	2,494
3. *Union Authorities*—				
Boards of guardians	1,284,724	51,184	—	1,335,908
4. *Special District Authorities*—				
Sick asylum district managers	32,473	—	1,388	31,085
School district managers	120,928	37	—	120,965
Library commissioners	2,496	162	—	2,658
Wards of the city	6,931	34	—	6,965
5. *Parish Authorities*—				
Vestries and local board	1,785,640	—	39,280	1,746,360
Boards of guardians	1,133,498	34,081	—	1,167,579
Overseers, or bodies acting as overseers.....	178,209	69,410	—	247,619
Library commissioners	54,193	—	714	53,479
Baths „	71,330	6,693	—	78,023
Burial boards.....	49,121	1,212	—	50,333
Market trustees.....	2,483	—	780	1,703
Churchwardens	9,898	554	—	10,452
Totals	11,834,390	329,896	168,613	11,995,673

So that a total expenditure incurred of 11,834,390*l.* becomes a total taxation of 11,995,673*l.*

Comparing this charge on taxation with the taxation imposed by the various authorities, the result is as follows :—

Authorities.	Charge incurred after allowing for Balances Increased or Decreased in the Year.	Taxation Imposed.			
		Appropriation from Imperial Taxes.	Indirect Taxation.	Rates.	Total.
	£	£	£	£	£
1. *County Authorities*—					
London County Council	2,159,971	87,517	514,863	2,952,322	3,554,702
School Board for London....	2,281,836	650,224	—	1,631,612	2,281,836
Metropolitan Asylums Board	418,565	—	—	422,982	422,982
Metropolitan police	1,270,234	616,347	28,815	625,072	1,270,234
Local Government Board....	—	—	—	1,174,680	1,174,680
2. *District Authorities*—					
City of London Corporation	213,576	—	134,282	78,848	213,130
„ Commissioners of Sewers	268,362	—	8,117	252,877	260,994
District boards	527,506	—	208	337,996	338,204
Library commissioners	2,494	—	—	2,494	2,494
3. *Union Authorities*—					
Boards of guardians	1,335,908	—	—	451,503	451,503
4. *Special District Authorities*—					
Sick asylum district managers.....	31,085	—	—	31,085	31,085
School district managers	120,965	—	—	120,965	120,965
Library commissioners	2,658	—	—	2,658	2,658
Wards of the city	6,965	—	—	6,965	6,965
5. *Parish Authorities*—					
Vestries and local board	1,746,360	—	1,793	1,060,645	1,062,438
Guardians	1,167,579	—	—	371,706	371,706
Overseers	247,619	—	9,551	225,556	235,107
Library commissioners	53,479	—	—	53,479	53,479
Baths „	78,023	—	—	78,023	78,023
Burial boards.....	50,333	—	37,578	12,755	50,333
Market trustees	1,703	—	1,703	—	1,703
Churchwardens	10,452	—	—	10,452	10,452
	11,995,673	1,354,088	736,910	9,904,675	11,995,673

In the case of the County Council and the Asylums Board the taxation imposed is in excess of the expenditure incurred, while a wholly new authority, the Local Government Board, appears as a taxing authority without having incurred any expenditure. On the other hand, the city corporation, the Commissioners of Sewers, district boards, vestries, guardians and overseers impose less taxation than the expenditure they incur. But in the total the expenditure and taxation amount to the same sum (11,995,673*l.*).

These differences between expenditure incurred and taxation

imposed by the different authorities are caused by the operation of certain equalisation funds, which have for their object the equalisation of the rates which fall upon the rating units. These funds are as follows :—

Common Poor Fund (Act of 1867, and amending Acts).
County Grants (Act of 1888).
Equalisation Fund (Act of 1894).

The common poor fund is administered by the Local Government Board. Certain charges in connection with the maintenance of in-door paupers and lunatics, and for registration and vaccination, incurred by the guardians of the poor of the several parishes and unions in the county, are transferred to this fund, and the amount required to meet them is raised by an equal rate over the metropolitan poor district, *i.e.*, the administrative county, excluding Penge.

The county grants are administered by the London County Council. They consist of grants to guardians, sanitary authorities, and overseers, in aid of the following services :—

Guardians of the poor—
- Pauper lunatics.
- Poor law medical expenses.
- Registrars of births and deaths.
- Teachers in poor law schools.
- In-door poor.

Sanitary authorities (vestries and district boards)—
- Medical officers.
- Sanitary inspectors.
- Main roads.

Overseers—
- Registration of electors.
- Drowned bodies.

The rates to meet these grants are levied over the whole county, with the exception of that for drowned bodies, which is charged on the special county rate, and is therefore not levied on the city.

The Asylums Board also administers a small amount of grants. These are repayments to local authorities of fees paid for the notification of infectious diseases, under the Public Health Act, 1891. The rate to meet these grants is charged, along with the rest of the expenses of the Asylums Board, upon the Metropolitan Asylums District.

The equalisation fund is administered by the London County Council. It consists of a rate of 6*d.* in the £ levied annually on the whole county, and redistributed among the sanitary authorities on the basis of population.

The effect of these funds is to relieve parish, union, and district expenditure at the expense of county rates. The total transfer of charge thus made in 1895-96 was as follows :—

	£	£
To the Common Poor Fund—		
From guardians of unions	624,119	
„ „ parishes	550,561	
		1,174,680
To the County Fund—		
From guardians of unions	260,190	
„ „ parishes	245,312	
„ district boards	6,736	
„ vestries	13,898	
„ overseers	12,512	
„ City of London Corporation	445	
		539,093
To the Asylums Board—		
From vestries (3,552*l.*), district boards (842*l.*), city commissioners (22*l.*), and city corporation (1*l.*)		4,417
To the Equalisation Fund—		
From district boards	181,724	
„ vestries	666,381	
„ City Commissioners of Sewers	7,346	
„ guardians in respect of parishes in Schedule C of the Metropolis Management Act, 1855	96	
„ Overseers, ditto	91	
		855,638
Total amount of parish, union, and district expenditure paid out of county rates		2,573,828

The expenditure of boards of guardians transferred to the common poor fund was as follows :—

	£
Maintenance of lunatics and insane poor	249,243
„ fever and small pox patients	46,138
Medicine and medical appliances	15,438
Salaries of officers	250,817
Rations „	82,667
Compensation for loss of office, &c.	1,595
Registration fees	11,078
Vaccination fees and expenses	13,093
Maintenance of pauper children	182,856
Houseless Poor Acts	22,301
Maintenance of in-door paupers	282,070
Education of out-door pauper children	12
Expenses of ambulances	17,372
	1,174,680

Before dismissing this important subject of equalisation, it should be pointed out how cumbersome is the machinery at

present adopted. The system has been allowed to grow without reference to the effect of each succeeding growth upon the preceding part. At the time of the institution of the common poor fund in 1867 there was no county authority and no other equalisation fund. Now there is a county authority, and two other equalisation funds administered by that authority. The overlapping of jurisdictions is not conducive to administrative efficiency. Take for instance the case of lunacy. The whole charge for pauper lunatics is now a county charge, but it becomes so in the following tortuous manner. First, there is the county lunacy administered by the county asylums committee and paid for by the county rate. Secondly, there is the local lunacy administered by the thirty boards of guardians, but paid for partly by the common county charge of the Metropolitan Asylums Board, partly by the grant from the county fund of 4*s.* per head per week, and partly by the common poor fund. All this machinery to produce so simple a result as a common county charge for London lunacy must be productive of unnecessary expense, if not inefficient administration, and at all events the London County Council employs a staff to examine the guardians' lunacy accounts for the purpose of determining the amount of the grants, which are also examined by the Local Government Board for the purpose of determining the amount to be paid by the common poor fund. Now that the council is charged with the duty of disbursing certain county grants, and with the duty of administering the equalisation fund, it should also be charged with the administration of the common poor fund, subject to some simplification of method. Payments out of the fund could be made on the certificate of the Local Government Board as at present, so that no change would be made in the machinery of control, but only in the machinery of administration. Further, the grants out of the county fund to local authorities should be made clear of the county rate proper and constituted a part of the equalisation fund.

The area with which each item of the charge on rates is shared, that is, the area among the parishes of which the charge on rates is apportioned on the basis of rateable value, forms an important feature of taxation by direct charge on rateable value. The largest area with which rates are shared is the Metropolitan police district, with which the police rate is shared. All other rates are shared either with the county, with an area somewhat less than the county for special purposes, with a specially constituted district for poor law schools or for sick asylums, with a sanitary district or poor law union, or with the parish.

The areas which consist of groups of parishes are as follows:—

Area with which Rates are Shared.		Rating Authority.
Name.	Description.	
Metropolitan police district	County of London, county of Middlesex, and parts of the counties of Essex (16 parishes), Herts (16 parishes), Kent (18 parishes), and Surrey (39 parishes)	Metropolitan police
Administrative county of London	County and city	London County Council (General County Rate) School Board for London
County of London	County (*i.e.*, excluding city)	London County Council (Special County Rate)
Metropolitan poor district	Administrative county, *less* Penge	Local Government Board (Common Poor Fund)
Metropolitan asylums district	Administrative county, *less* Penge, Gray's Inn, Lincoln's Inn, Inner Temple, and Middle Temple	Metropolitan Asylums Board
City of London	—	City of London Corporation
Sick asylum districts—		
Central London	Strand Union, Westminster Union, and the parish of St. Giles and St. George	Managers of the Sick Asylum District
Poplar and Stepney	Poplar Union and Stepney Union	,,
School districts—		
Central London	City of London Union and St. Saviour's Union	Managers of the School District
Forest Gate	Poplar Union and Whitechapel Union	,,
Kensington and Chelsea	Parishes of Kensington and Chelsea	,,
North Surrey	Lewisham Union and Wandsworth and Clapham Union	,,
South Metropolitan	Greenwich Union, St. Olave's Union, Stepney Union, Woolwich Union, and the parish of Camberwell	,,
West London	Fulham Union, St. George's Union, and the parish of Paddington	,,
Special library district—		
St. Martin and St. Paul	Parish of St. Martin-in-the-Fields and St. Paul, Covent Garden	Library Commissioners
Poor Law Unions—		
City of London	City of London, excluding Inner Temple, Middle Temple, and Furnival's Inn; and Glasshouse Yard	Guardians of the Union
Fulham	Parishes of Fulham and Hammersmith	,,
Greenwich	,, St. Nicholas, Deptford, St. Paul, Deptford, and Greenwich	,,
Hackney	Parishes of Hackney and Stoke Newington	,,
Holborn	Parishes of Clerkenwell, St. Andrew and St. George, St. Luke, and St. Sepulchre; the Charterhouse; the liberty of Saffron Hill; Furnival's Inn, and Staple Inn	,,
Lewisham	Parishes of Eltham, Lee and Lewisham	,,
Poplar	,, Bow, Bromley, and Poplar	,,
St. George's	,, St. George, Hanover Square, St. Margaret and St. John, and St. Peter, Westminster	,,

Area with which Rates are Shared.		Rating Authority.
Name.	Description.	
Poor Law Unions—*contd.*		
St. Olave's	Parishes of Bermondsey, Horselydown, Rotherhithe, and St. Olave and St. Thomas	Guardians of the Poor
St. Saviour's	Parishes of Christchurch, Southwark, Newington, St. George-the-Martyr, and St. Saviour	,,
Stepney	Parishes of Limehouse, Ratcliffe, Shadwell, and Wapping	,,
Strand	Liberty of the Rolls, and parishes of St. Clement Danes, St. Martin-in-the-Fields, St. Mary-le-Strand, and St. Paul, Covent Garden; and the precinct of the Savoy	,,
Wandsworth and Clapham	Parishes of Battersea, Clapham, Putney, Streatham, Tooting Graveney, and Wandsworth	,,
Westminster	Parishes of St. Anne, Soho, and St. James, Westminster	,,
Whitechapel	Parishes of Aldgate, Christchurch, Spitalfields, Mile End New Town, Norton Folgate, Old Artillery Ground, and Whitechapel	,,
Woolwich	Parishes of Charlton, Kidbrook, Plumstead and Woolwich	,,
Sanitary districts—		
City of London	City of London, and parts of Glasshouse Yard, Saffron Hill, and Whitechapel	Commissioners of Sewers
Greenwich	Parishes of St. Nicholas, Deptford, St. Paul, Deptford, and Greenwich	District Board of Works
Holborn	Parishes of St. Andrew and St. George and St. Sepulchre; and parts of Glasshouse Yard and Saffron Hill	District Board of Works and Library Commissioners
Lee	Parishes of Charlton, Eltham, Kidbrook, and Lee	District Board of Works
Lewisham	Parishes of Lewisham and Penge	,,
Limehouse	,, Limehouse, Ratcliffe, Shadwell, and Wapping	,,
Poplar	Parishes of Bow, Bromley, and Poplar	,,
St. Giles'	Parish of St. Giles and St. George	,,
St. Olave's	Parishes of Horselydown, and St. Olave and St. Thomas	,,
St. Saviour's	Parishes of Christchurch, Southwark, and St. Saviour	,,
Strand	Liberty of the Rolls, and parishes of St. Anne, Soho, St. Clement Danes, St. Mary-le-Strand and St. Paul, Covent Garden; and the precinct of the Savoy	,,
Wandsworth	Parishes of Clapham, Putney, Streatham, Tooting Graveney, and Wandsworth	,,
Whitechapel	Parishes of Aldgate, Christchurch, Spitalfields, Mile End New Town, Norton Folgate, Old Artillery Ground, and part of Whitechapel	District Board of Works and Library Commissioners

As regards the remaining authorities the charge falling on rates is shared with the parish area. These authorities are :—

Guardians of the poor (14).
Vestries (29), and local board (Woolwich).
Burial boards (29).
Baths and washhouses commissioners (29).
Library commissioners (27).
Overseers or bodies acting as overseers (192).
Market trustees (1).
Churchwardens (9).

In the case of district boards and guardians of unions, however, the whole of the charges are not technically "shared" by the constituent parishes; that is to say, the whole of the charges are not apportioned among the parishes upon the basis of rateable value. In the accounts of some of these authorities there are certain items of expenditure which are charged to the individual parishes in respect of which they are incurred, and in a few cases there are items of receipt credited to individual parishes. In two particular cases, viz., Wandsworth District Board and Lee District Board, none of the charges appear to be apportioned rateably between the parishes, the whole of the expenditure being charged according to works in the several parishes. In the case of Greenwich and Lewisham District Boards also the greater part of the expenditure is charged separately to the parishes.

Although the charges of the central authorities and most of the district authorities are apportioned rateably among the constituent parishes, this apportionment is not always upon the statutory rateable value in force for the year, and thus certain parishes gain at the expense of others. The most notable instance of this is the contribution of Woolwich to the common poor fund, which works out at only 2*l.* 19*s.* 5*d.*, instead of 3*l.* 9*s.* 1*d.*, the parishes in the union thus escaping a rate of 9*s.* 8*d.* Another instance is the contribution of Tooting to the school board, which works out at only 4*l.* 10*s.* 9*d.*, instead of 4*l.* 15*s.* 4*d.*, a gain of 4*s.* 7*d.* St. Sepulchre again paid only 4*l.* 13*s.* 5*d.* to the school board, instead of 4*l.* 15*s.* 4*d.*, and 3*l.* 2*s.* 6*d.* to the guardians, instead of 3*l.* 5*s.* 8*d.*, a total exemption of 5*s.* 1*d.*

This question of the area with which direct taxation is shared is thus a very important one; so important indeed, that it may create a heavy or light charge according to the position of the property which has to bear the taxation. It leads to serious differentiation of rates as between the different rating areas, the parishes.

Before considering differentiation of rates, it will be well to ascertain what has been done towards obviating the most serious inequalities of direct taxation in London. I have already described the process and given the figures in gross for all London. The following table shows the facts for each parish.

Name of Parish or Place.	Rate per Cent. of the Charge on Rates before being touched by Equalisation Funds.	Rates per Cent. of the Charge on Rates as altered by Equalisation Funds.			Order of Parish from Lowest to Highest Rating.			
		As altered by the Common Poor Fund.	As further altered by the County Fund.	As finally altered by the Equalisation Fund.	Before Equalisation.	As altered by the Common Poor Fund.	As further altered by the County Fund.	As finally altered by the Equalisation Fund.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.				
St. James', Westminster	19 7 8	21 1 10	21 17 8	23 15 –	1	1	1	1
St. George, Hanover Square	22 – 2	23 14 –	24 10 10	26 5 –	3	2	2	2
City of London	21 9 11	23 19 10	25 3 6	27 10 –	2	3	3	3
St. Margaret and St. John	24 – 11	25 14 9	26 10 6	27 14 2	4	4	4	4
Islington	28 12 10	29 4 7	29 7 9	28 2 6	13	13	14	5
Deptford, St. Nicholas	32 2 –	30 – 4	29 3 6	28 6 8	23	16	12	6
St. Andrew and St. George	31 10 2	29 10 3	28 – 3	28 6 8	21	14	6	6
St. Marylebone	28 12 3	28 9 9	28 5 7	28 19 2	12	10	9	8
Paddington	26 1 2	27 14 1	28 9 5	29 3 4	5	8	10	9
Ratcliffe	36 2 4	32 10 6	30 11 1	29 3 4	45	32	21	9
Deptford, St. Paul	33 16 8	31 15 –	31 1 1	29 11 8	34	28	25	11
St. Anne, Westminster	26 6 9	28 – 11	28 14 2	29 11 8	6	9	11	11
Shoreditch	33 7 5	31 11 –	30 11 5	29 11 8	27	27	22	11
Chelsea	30 16 4	30 5 6	29 17 11	29 15 10	20	17	17	14
Battersea	30 5 1	31 – 4	31 9 8	30 – –	19	23	33	15
Lambeth	32 8 –	31 7 10	31 1 3	30 – –	24	25	26	15
Penge	29 17 10	29 17 10	30 8 5	30 – –	16	15	19	15
St. Clement Danes	26 15 1	27 13 –	28 3 8	30 – –	8	6	7	15
St. Martin-in-the-Fields	26 9 6	27 7 5	27 19 7	30 – –	7	5	5	15
St. Mary-le-Strand	26 16 1	27 14 –	28 4 8	30 1 8	9	7	8	20
Wapping	36 3 11	32 12 1	30 13 8	30 8 4	47	33	23	21
Hampstead	26 17 4	29 3 4	29 18 3	30 8 4	10	12	18	21
Stoke Newington	32 – 10	31 8 9	31 3 –	30 8 4	22	26	27	21
Kensington	27 16 4	29 2 9	29 15 –	30 12 6	11	11	16	24
Clerkenwell	35 2 5	33 2 6	31 13 11	30 16 8	43	36	35	25

Name of Parish or Place.	Rate per Cent. of the Charge on Rates before being touched by Equalisation Funds.	Rates per Cent. of the Charge on Rates as altered by Equalisation Funds.			Order of Parish from Lowest to Highest Rating.			
		As altered by the Common Poor Fund.	As further altered by the County Fund.	As finally altered by the Equalisation Fund.	Before Equalisation.	As altered by the Common Poor Fund.	As further altered by the County Fund.	As finally altered by the Equalisation Fund.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.				
St. Saviour's, Southwark	33 10 5	30 13 7	29 6 8	30 16 8	30	19	13	25
Streatham	30 – 3	30 15 6	31 6 7	30 16 8	18	21	30	25
St. Sepulchre	33 1 9	31 1 10	29 12 8	31 9 2	26	24	15	28
St. Luke	35 1 10	33 1 11	31 12 2	31 13 4	42	34	34	29
Hackney	34 9 9	33 17 8	33 12 9	32 1 8	40	40	40	30
St. George-in-the-East	48 11 9	39 – 11	34 1 11	32 1 8	73	66	42	30
St. Pancras	34 7 2	33 2 10	32 11 6	32 1 8	38	37	37	30
Saffron Hill	33 19 3	31 19 4	30 10 7	32 1 8	35	30	20	30
Christchurch, Southwark	36 3 8	33 6 10	32 – 7	32 7 11	46	39	36	34
Greenwich	37 1 4	34 19 8	33 17 11	32 10 –	52	46	41	35
Hammersmith	33 – –	33 3 5	33 11 2	32 10 –	25	38	39	35
Mile End Old Town	41 7 11	37 13 4	35 13 11	32 10 –	64	60	56	35
St. Thomas, Southwark	33 14 7	31 19 –	31 5 7	32 18 4	32	29	29	38
St. Paul, Covent Garden	29 17 –	30 14 11	31 5 –	33 6 8	15	20	28	39
Camberwell	36 19 1	35 14 3	35 7 8	33 6 8	51	50	50	39
Newington	39 16 –	36 19 2	35 11 10	33 6 8	57	56	54	39
Plumstead	38 19 6	37 10 –	36 16 –	33 6 8	55	58	63	39
Rolls	29 12 4	30 10 3	31 – 2	33 6 8	14	18	24	39
St. Giles and St. George	33 12 10	33 1 11	32 12 3	33 6 8	31	34	38	39
St. Olave, Southwark	33 15 11	32 – 4	31 7 4	33 10 10	33	31	31	45
Old Artillery Ground	39 18 3	36 16 2	35 6 –	33 15 –	58	55	48	46
Savoy	29 19 3	30 17 2	31 7 9	33 15 –	17	22	32	46
Woolwich	36 19 –	35 9 6	35 – 9	33 15 –	50	48	47	46
Clapham	33 8 9	34 4 –	34 14 11	34 3 4	28	41	44	49
Kidbrook	36 7 10	34 18 4	34 7 2	34 3 4	48	44	43	49

Name of Parish or Place.	Rate per Cent. of the Charge on Rates before being touched by Equalisation Funds.	Rates per Cent. of the Charge on Rates as altered by Equalisation Funds.			Order of Parish from Lowest to Highest Rating.			
		As altered by the Common Poor Fund.	As further altered by the County Fund.	As finally altered by the Equalisation Fund.	Before Equalisation.	As altered by the Common Poor Fund.	As further altered by the County Fund.	As finally altered by the Equalisation Fund.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.				
Limehouse	41 5 9	37 13 11	35 14 6	34 3 4	62	62	57	49
Norton Folgate	39 14 8	36 12 7	34 19 9	34 7 6	56	54	46	52
Putney	33 10 1	34 5 4	34 15 8	34 7 6	29	42	45	52
Fulham	35 14 4	35 17 9	36 5 3	34 11 8	44	51	60	54
Mile End New Town	41 5 7	38 3 6	36 14 11	34 11 8	61	63	62	54
Wandsworth	34 1 11	34 17 2	35 8 5	34 15 10	36	43	51	56
Charlton	37 7 6	35 18 –	35 7 –	35 – –	53	52	49	57
Lewisham	34 2 7	34 19 7	35 9 8	35 – –	37	45	53	57
Whitechapel	40 9 2	37 7 1	35 18 4	35 – –	59	57	58	57
Christchurch, Spitalfields	41 7 4	38 5 3	36 16 9	35 8 4	63	64	64	60
Eltham	34 7 7	35 4 7	35 12 6	35 8 4	39	47	55	60
Tooting Graveney	34 15 5	35 10 8	36 1 8	35 8 4	41	49	59	60
Horselydown	37 18 –	36 2 5	35 9 1	35 16 8	54	53	52	63
St. George-the-Martyr, Southwark	41 13 2	38 16 4	37 6 2	35 16 8	66	65	65	63
Aldgate	40 15 5	37 13 4	36 6 3	35 19 5	60	60	61	65
Bethnal Green	48 10 4	42 16 7	39 8 11	36 2 11	72	70	69	66
Shadwell	44 3 11	40 12 1	38 9 8	37 10 –	67	68	67	67
Bermondsey	41 9 –	39 13 5	39 2 –	37 14 2	65	67	68	68
Lee	36 15 7	37 12 7	38 2 11	37 18 4	49	59	66	69
Poplar	45 4 8	42 3 7	40 19 7	39 7 6	68	69	70	70
Bow	47 15 6	44 14 5	43 11 3	40 16 8	70	72	72	71
Bromley	48 – 5	44 19 4	43 14 5	40 16 8	71	73	73	71
Rotherhithe	45 9 11	43 14 4	43 2 10	42 1 8	69	71	71	73

If therefore the units of local administration as originally formed had been left to themselves, the range of rating would have been from 19*l.* 7*s.* 8*d.* per cent. in St. James, Westminster, to 48*l.* 11*s.* 9*d.* per cent. in St. George-in-the-East; whereas, in consequence of making local charges fall upon county funds, the range of rating is from 23*l.* 15*s.* per cent. in St. James, Westminster, to 42*l.* 1*s.* 8*d.* in Rotherhithe. There has thus been a levelling up of the lowest rated parishes and a lessening of the highest rated parishes, and in no case is a local authority in London entirely independent. Of parishes which incur a different expenditure, and in consequence of equalisation bear the same rate, there are Paddington and Ratcliff; Deptford St. Paul, St. Anne and Shoreditch; Battersea, Lambeth, Penge, St. Clement Danes, and St. Martin; Clerkenwell, St. Saviour's, and Streatham; St. George-in-the-East and St. Pancras; Greenwich and Hammersmith; Camberwell, Newington, Plumstead, Rolls, and St. Giles and St. George; Savoy and Woolwich; Clapham and Kidbrook; Charlton and Lewisham; Eltham and Tooting; Horselydown and St. George-the-Martyr. But still the range of differentiation is great, and the causes of this will need a somewhat lengthy examination.

The effect of the equalisation funds, which is either to decrease the charge incurred or to impose an additional charge upon each parish, is as follows:—

Parish.	1 Addition to (+) or Deduction from (−) the Charge on Rates incurred by the Parish caused by the operation of the Equalisation Funds. Common Poor Fund.			2 County Grants.			3 Equalisation Fund.			4 Total.		
	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*
Central London, North.												
1. City of London	+ 2	9	11	+ 1	3	8	+ 2	6	6	+ 6	−	1
2. Aldgate	− 3	2	1	− 1	7	1	− −	6	10	− 4	16	−
3. Whitechapel	− 3	2	1	− 1	8	9	− −	18	4	− 5	9	2
4. Mile End New Town	− 3	2	1	− 1	8	7	− 2	3	3	− 6	13	11
5. Christchurch, Spitalfields	− 3	2	1	− 1	8	6	− 1	8	5	− 5	19	−
6. Old Artillery Ground	− 3	2	1	− 1	10	2	− 1	11	−	− 6	3	3
7. Norton Folgate	− 3	2	1	− 1	12	10	− −	12	3	− 5	7	2
8. Shoreditch	− 1	16	5	− −	19	7	− −	19	9	− 3	15	9
9. St. Luke	− 1	19	11	− 1	9	9	+ −	1	2	− 3	8	6
10. Clerkenwell	− 1	19	11	− 1	8	7	− −	17	3	− 4	5	9
11. Charterhouse	− 1	19	11	− 1	9	5	+ 2	5	7	− 1	3	9
12. Furnival's Inn	− 1	19	11	− 1	6	10	+ 2	2	−	− 1	4	9
13. Staple Inn	− 1	19	11	− 1	6	10	+ 2	7	3	− −	19	6
14. St. Sepulchre	− 1	19	11	− 1	9	2	+ 1	16	6	− 1	12	7
15. Saffron Hill, &c.	− 1	19	11	− 1	8	9	+ 1	11	1	− 1	17	7
16. St. Andrew and St. George	− 1	19	11	− 1	10	−	+ −	6	5	− 3	3	6

Parish.	1 Addition to (+) or Deduction from (−) the Charge on Rates incurred by the Parish caused by the operation of the Equalisation Funds. Common Poor Fund.				2 County Grants.				3 Equalisation Fund.				4 Total.			
		£	s.	d.		£	s.	d.		£	s.	d.		£	s.	d.
Central London, N.—Contd.																
17. Glasshouse Yard	+	2	9	11	+	−	15	6	+	1	1	8	+	4	7	1
18. Gray's Inn	−	1	19	11	−	1	15	1	+	2	3	11	−	1	11	1
19. Lincoln's Inn	+	3	9	1	+	1	10	−	+	2	9	5	+	7	8	6
20. Inner Temple	+	2	9	11	+	1	3	8	+	2	8	6	+	6	2	1
21. Middle Temple	+	2	9	11	+	1	3	8	+	2	7	5	+	6	1	−
22. St. Giles and St. George	−	−	10	11	−	−	9	8	+	−	14	5	−	−	6	2
23. St. Martin-in-the-Fields	+	−	17	11	+	−	12	2	+	2	−	5	+	3	10	6
24. Liberty of the Rolls	+	−	17	11	+	−	9	11	+	2	6	6	+	3	14	4
25. St. Clement Danes	+	−	17	11	+	−	10	8	+	1	16	4	+	3	4	11
26. St. Mary-le-Strand	+	−	17	11	+	−	10	8	+	1	17	−	+	3	5	7
27. Precinct of the Savoy	+	−	17	11	+	−	10	7	+	2	7	3	+	3	15	9
28. St. Paul, Covent Garden	+	−	17	11	+	−	10	1	+	2	1	8	+	3	9	8
29. St. Anne, Soho	+	1	14	2	+	−	13	3	+	−	17	6	+	3	4	11
30. St. James, Westminster	+	1	14	2	+	−	15	10	+	1	17	4	+	4	7	4
Central London, South.																
31. Newington	−	2	16	10	−	1	7	4	−	2	5	2	−	6	9	4
32. St. George-the-Martyr	−	2	16	10	−	1	10	2	−	1	9	6	−	5	16	6
33. Christchurch, Southwark	−	2	16	10	−	1	6	3	+	−	7	4	−	3	15	9
34. St. Saviour, Southwark	−	2	16	10	−	1	6	11	+	1	10	−	−	2	13	9
35. St. Thomas ,,	−	1	15	7	−	−	13	5	+	1	12	9	−	−	16	3
36. St. Olave ,,	−	1	15	7	−	−	13	−	+	2	3	6	−	−	5	1
37. Horselydown	−	1	15	7	−	−	13	4	+	−	7	7	−	2	1	4
38. Bermondsey	−	1	15	7	−	−	11	5	−	1	7	10	−	3	14	10
39. Rotherhithe	−	1	15	7	−	−	11	6	−	1	1	2	−	3	8	3
East London.																
40. St. George-in-the-East	−	9	10	10	−	4	19	−	−	2	−	3	−	16	10	1
41. Wapping	−	3	11	10	−	1	18	5	−	−	5	4	−	5	15	7
42. Shadwell	−	3	11	10	−	2	2	5	−	−	19	8	−	6	13	11
43. Ratcliff	−	3	11	10	−	1	19	5	−	1	7	9	−	6	19	−
44. Limehouse	−	3	11	10	−	1	19	5	−	1	11	2	−	7	2	5
45. Poplar	−	3	1	1	−	1	4	−	−	1	12	1	−	5	17	2
46. Bromley	−	3	1	1	−	1	4	11	−	2	17	9	−	7	3	9
47. Bow	−	3	1	1	−	1	3	2	−	2	14	7	−	6	18	10
48. Mile End Old Town	−	3	14	7	−	1	19	5	−	3	3	11	−	8	17	11
49. Bethnal Green	−	5	13	9	−	3	7	8	−	3	6	−	−	12	7	5
North London.																
50. Hackney	−	−	12	1	−	−	4	11	−	1	11	1	−	2	8	1
51. Stoke Newington	−	−	12	1	−	−	5	9	−	−	14	8	−	1	12	6
52. Islington	+	−	11	9	+	−	3	2	−	1	5	3	−	−	10	4
53. St. Pancras	−	1	4	4	−	−	11	4	−	−	9	10	−	2	5	6
54. Hampstead	+	2	6	−	+	−	14	11	+	−	10	1	+	3	11	−
55. St. Marylebone	−	−	2	6	−	−	4	2	+	−	13	7	+	−	6	11
West London.																
56. Paddington	+	1	12	11	+	−	15	4	+	−	13	11	+	3	2	2
57. St. George, Hanover Sq.	+	1	13	10	+	−	16	10	+	1	14	2	+	4	4	10
58. St. Margaret and St. John	+	1	13	10	+	−	15	9	+	1	3	8	+	3	13	3

Parish.	1 Addition to (+) or Deduction from (−) the Charge on Rates incurred by the Parish caused by the operation of the Equalisation Funds. Common Poor Fund.				2 County Grants.				3 Equalisation Fund.				4 Total.			
		£	s.	d.		£	s.	d.		£	s.	d.		£	s.	d.
West London—Contd.																
59. St. Peter, Westminster	+	1	13	10	+	−	17	2	+	1	5	9	+	3	16	9
60. Chelsea	−	−	10	10	−	−	7	7	−	−	2	1	−	1	−	6
61. Kensington	+	1	6	5	+	−	12	3	+	−	17	6	+	2	16	2
62. Hammersmith	+	−	3	5	+	−	7	9	−	1	1	2	−	−	10	−
63. Fulham	+	−	3	5	+	−	7	6	−	1	13	7	−	1	2	8
South-west London.																
64. Putney	+	−	15	3	+	−	10	4	−	−	8	2	+	−	17	5
65. Wandsworth	+	−	15	3	+	−	11	3	−	−	12	7	+	−	13	11
66. Tooting	+	−	15	3	+	−	11	−	−	−	13	4	+	−	12	11
67. Streatham	+	−	15	3	+	−	11	1	−	−	9	11	+	−	16	5
68. Clapham	+	−	15	3	+	−	10	11	−	−	11	7	+	−	14	7
69. Battersea	+	−	15	3	+	−	9	4	−	1	9	8	−	−	5	1
South London.																
70. Lambeth	−	1	−	2	−	−	6	7	−	1	1	3	−	2	8	−
71. Camberwell	−	1	4	10	−	−	6	7	−	2	1	−	−	3	12	5
South-east London.																
72. St. Paul, Deptford	−	2	1	8	−	−	13	11	−	1	9	5	−	4	5	−
73. St. Nicholas, Deptford	−	2	1	8	−	−	16	10	−	−	16	10	−	3	15	4
74. Greenwich	−	2	1	8	−	1	1	9	−	1	7	11	−	4	11	4
75. Woolwich	−	1	9	6	−	−	8	9	−	1	5	9	−	3	4	−
76. Plumstead	−	1	9	6	−	−	14	−	−	3	9	4	−	5	12	10
77. Charlton	−	1	9	6	−	−	11	−	−	−	7	−	−	2	7	6
78. Kidbrook	−	1	9	6	−	−	11	2	−	−	3	10	−	2	4	6
79. Eltham	+	−	17	−	+	−	7	11	−	−	4	2	+	1	−	9
80. Lee	+	−	17	−	+	−	10	4	−	−	4	7	+	1	2	9
81. Lewisham	+	−	17	−	+	−	10	1	−	−	9	8	+	−	17	5
82. Penge		—			+	−	10	7	−	−	8	5	+	−	2	2

Now the question of whether local taxation falls equally upon the taxpayer, does not arise with the appropriations from imperial taxes, nor with the local indirect taxation. These systems of local taxation are governed by other considerations, and in any case they must be dealt with separately and from a different point of view to that of direct local taxation. The effect of direct local taxation when it reaches the taxpayer is the material matter for consideration by local taxing authorities.

It will be seen from the following table that the differentiation of rates in the several parishes of London is considerable, ranging from 23*l.* 15*s.* per cent. to 42*l.* 1*s.* 8*d.* per cent. of rateable value.

Name of Parish or Place.	Rates per Cent. of Rateable Value, 1895-96.			Amount in Excess of Lowest Rating.		
	£	s.	d.	£	s.	d.
St. James, Westminster	23	15	–		—	
St. George, Hanover Square	26	5	–	2	10	–
City of London	27	10	–	3	15	–
St. Margaret and St. John	27	14	2	3	19	2
Islington	28	2	6	4	7	6
Deptford St. Nicholas	28	6	8	4	11	8
St. Andrew and St. George	28	6	8	4	11	8
St. Marylebone	28	19	2	5	4	2
Paddington	29	3	4	5	8	4
Ratcliff	29	3	4	5	8	4
Deptford St. Paul	29	11	8	5	16	8
St. Anne, Westminster	29	11	8	5	16	8
Shoreditch	29	11	8	5	16	8
Chelsea	29	15	10	6	–	10
Battersea...	30	–	–	6	5	–
Lambeth	30	–	–	6	5	–
Penge	30	–	–	6	5	–
St. Clement Danes	30	–	–	6	5	–
St. Martin-in-the-Fields	30	–	–	6	5	–
St. Mary-le-Strand	30	1	8	6	6	8
Wapping	30	8	4	6	13	4
Hampstead	30	8	4	6	13	4
Stoke Newington	30	8	4	6	13	4
Kensington	30	12	6	6	17	6
Clerkenwell	30	16	8	7	1	8
St. Saviour	30	16	8	7	1	8
Streatham	30	16	8	7	1	8
St. Sepulchre	31	9	2	7	14	2
St. Luke	31	13	4	7	18	4
Hackney	32	1	8	8	6	8
St. George-in-the-East	32	1	8	8	6	8
St. Pancras	32	1	8	8	6	8
Saffron Hill, &c.	32	1	8	8	6	8
Christchurch, Southwark	32	7	11	8	12	11
Greenwich	32	10	–	8	15	–
Hammersmith	32	10	–	8	15	–
Mile End Old Town	32	10	–	8	15	–
St. Thomas, Southwark.....	32	18	4	9	3	4
St. Paul, Covent Garden ...	33	6	8	9	11	8
Camberwell.....	33	6	8	9	11	8
Newington	33	6	8	9	11	8
Plumstead	33	6	8	9	11	8
Rolls	33	6	8	9	11	8
St. Giles and St. George	33	6	8	9	11	8
St. Olave, Southwark	33	10	10	9	15	10
Old Artillery Ground	33	15	–	10	–	–
Savoy	33	15	–	10	–	–
Woolwich	33	15	–	10	–	–
Clapham	34	3	4	10	8	4
Kidbrook.....	34	3	4	10	8	4
Limehouse	34	3	4	10	8	4
Norton Folgate	34	7	6	10	12	6
Putney	34	7	6	10	12	6
Fulham	34	11	8	10	16	8
Mile End New Town.....	34	11	8	10	16	8
Wandsworth	34	15	10	11	–	10

Name of Parish or Place.	Rates per Cent. of Rateable Value, 1895-96.			Amount in Excess of Lowest Rating.		
	£	*s.*	*d.*	£	*s.*	*d.*
Charlton	35	–	–	11	5	–
Lewisham	35	–	–	11	5	–
Whitechapel	35	–	–	11	5	–
Christchurch, Spitalfields	35	8	4	11	13	4
Eltham	35	8	4	11	13	4
Tooting Graveney	35	8	4	11	13	4
Horselydown	35	16	8	12	1	8
St. George, Southwark	35	16	8	12	1	8
Aldgate	35	19	5	12	4	5
Bethnal Green	36	2	11	12	7	11
Shadwell	37	10	–	13	15	–
Bermondsey	37	14	2	13	19	2
Lee	37	18	4	14	3	4
Poplar	39	7	6	15	12	6
Bow	40	16	8	17	1	8
Bromley	40	16	8	17	1	8
Rotherhithe	42	1	8	18	6	8

The causes of differentiation in rating operate both through the county and the parish, but by far the most important are those which operate through the parish.

The first cause of differentiation to be considered is the exemption from county rating. This occurs in the following cases:—

County rate (special): The City of London, Inner Temple, and Middle Temple.

Asylums Board charge: Lincoln's Inn, Gray's Inn, Inner Temple, Middle Temple, and Penge.

Common Poor Fund charge: Penge.

The exemption from the special county rate is in London not due to special areas being benefited by special expenditure out of rates, and in consequence being charged with a special rate, but to a distinct exemption of the city of London from taking its share in the administrative organisation of the county. It causes differentiation of rating between the group of parishes contained in the county of London on the one hand, and the group of parishes contained in the city of London on the other hand. The city of London administers certain county services within its own area, and bears the charges therefor instead of sharing the administration and the cost with the rest of the county. This therefore resolves itself into a question of proportion: what additional charge for the present exempted services would the whole county have to bear in proportion to the additional rateable value which would be brought into common rating? In the year 1895-96 the charges incurred for these services were as follows:—

(*a*) By the Corporation of the city.

Service.	Expenditure.	Receipts-in-Aid.	Net Expenditure.
	£ s. d.	£ s. d.	£ s. d.
Dwellings for the poor	6,179 4 7	5,727 17 –	451 7 7
Lunatics	2,704 11 6	445 9 1	2,259 2 5
Coroners	1,223 1 4	—	1,223 1 4
Reformatories	733 15 10	—	733 15 10
Petroleum	25 – –	4 10 –	20 10 –
Shop hours	121 3 –	—	121 3 –
Drowned bodies	1 5 –	—	1 5 –
	10,988 1 3	6,177 16 1	4,810 5 2

(*b*) By the Commissioners of Sewers.

Service.	Expenditure.	Receipts-in-Aid.	Net Expenditure.
	£ s. d.	£ s. d.	£ s. d.
Dwelling-house improvement fund	7,232 – 10	5,574 16 6	1,657 4 4
Weights and measures	1,667 10 11	746 17 7	920 13 4
Gas testing	1,232 7 9	—	1,232 7 9
,, meter testing	1,613 19 6	1,499 – 6	114 19 –
Dangerous structures	909 13 9	853 9 6	56 4 3
Explosives	25 15 –	2 11 –	23 4 –
	12,681 7 9	8,676 15 1	4,004 12 8

Assuming that no saving would arise from uniform administration, and that the whole of this expenditure would fall upon the entire county, the position of things would be:—

	£ s. d.
Charges now paid for by the special county rate	300,057 13 3
,, for corresponding services now paid by the City Corporation and by the Commissioners of Sewers (as above)	8,814 17 10
Total charges to be met by the entire county	308,872 11 1

This amount calculated on the rateable value of the whole county is equivalent to a rate of 2·166*d.* in the £, or 18*s.* 0·61*d.* per cent. of rateable value.

The differentiation in rating as between the city and county by reason of this exemption works out as follows:—

(*a*) *The County*—	£ s. d.
Rate now levied—per cent. of rateable value	1 – –
,, which would be levied but for the exemption—per cent. of rateable value	– 18 0·61
Differentiated rate charged upon the county by reason of the exemption of the city—per cent. of rateable value	– 1 11·39

(*b*) *The City*—

	£	s.	d.	£	s.	d.
Rate now levied (that is, the rate of Commissioners of Sewers)—per cent. of rateable value	–	1	10·95			
Amount which is paid by the corporation, and which does not fall on rates—per cent. of rateable value	–	2	3·37			
				–	4	2·32
Rate which would be levied but for the exemption—per cent. of rateable value				–	18	0·61
Differentiated rate *not* charged upon the city by reason of the exemption—per cent. of rateable value				–	13	10·29

The Asylums Board charge is not levied from Lincoln's Inn, Gray's Inn, Inner Temple, Middle Temple, and Penge. Assuming that the inclusion of Penge in the Asylums Board district would be to correspondingly increase the charge to the amount of contribution, the exemption of the Inns of Court may be considered as the only cause of differentiation under this head. This exemption causes an increased charge equivalent to a rate of 0·65*d.* per cent. upon rateable value to fall upon the rest of the parishes in the county. The four Inns of Court escape taxation to the extent of 1*l.* 4*s.* 9·98*d.* per cent. of their rateable value, and the rest of the county is charged with 0·65*d.* per cent. of its rateable value more than it would be if the Asylums Board charge were levied equally over the county.[4]

The common poor fund charge is not levied upon Penge. It is impossible to say with any certainty what the effect would be if Penge were to be brought into the metropolitan poor law system and separated from Croydon, but it is probable that it would gain from the common poor fund at the expense of the rest of London.

Putting these exemptions together, the city of London gains 13*s.* 10·29*d.* per cent. by its exemption from the special county rate, and loses 0·65*d.* per cent. by the exemption of the Inns of Court from the Asylums Board charge; the Inner and Middle Temple gain 18*s.* 0·61*d.* per cent., less 2*s.* 3·37*d.*, or 15*s.* 9·24*d.* per cent., by their exemption from the special county rate (as they are not rated to the Commissioners of Sewers), and 1*l.* 4*s.* 9·98*d.* per

[4] Although the Inns of Court do not contribute to the expenses of the Metropolitan Asylums Board, a peculiar arrangement is in force by which Gray's Inn contributes to the common charges of Holborn Union, and the Temple contribute to the common charges of the City of London Union, the common charges in both cases including the charge of the Asylums Board on the unions. The benefit of the exemption, therefore, instead of accruing wholly to the places exempted, is shared with the unions to which they thus contribute. The effect of this arrangement is not, however, included in the figures used above, because being caused by a technical process which does not appear to be founded upon statutory provisions, it may, perhaps, be counteracted by other similar operations.

cent. by their exemption from the Asylums Board charge; Lincoln's Inn and Gray's Inn gain 1*l.* 4*s.* 9·98*d.* per cent. by the exemption from the Asylums Board charge, and lose 1*s.* 11·39*d.* per cent. by reason of the exemption of the city from the special county rate; Penge and the rest of the county of London lose 1*s.* 11·39*d.* per cent. by reason of the exemption of the city from the special county rate, and 0·65*d.* by reason of the exemptions from the Asylums Board charge. Put into tabular form, the figures are as follows:—

	Increased Rating—per Cent. of Rateable Value.	Decreased Rating—per Cent. of Rateable Value.	Net Result per Cent. of Rateable Value.
	s. *d.*	£ *s.* *d.*	£ *s.* *d.*
City of London	– 0·65	– 13 10·29	– – 13 9·64
Inner Temple	....	2 – 7·22	– 2 – 7·22
Middle „	....	2 – 7·22	– 2 – 7·22
Lincoln's Inn	1 11·39	1 4 9·98	– 1 2 10·59
Gray's Inn	1 11·39	1 4 9·98	– 1 2 10·59
Penge	2 0·04	....	+ – 2 0·04
Remainder of the county of London	2 0·04	....	+ – 2 0·04

The remaining causes of differentiation operate between individual parishes, and not between groups of parishes in particular areas.

Certain classes of property are allowed partial or total exemption from rating, and the extent of this within each parish in proportion to the total rateable value of the parish causes differentiation of rating.

These properties consist of (1) properties at and below 20*l.* in value which, by 32 and 33 Vict., cap. 41, are allowed a deduction of 15 per cent. from the rates when the rates are paid by the landlord, and a further deduction up to a maximum of 15 per cent. if rates are paid whether the premises are occupied or empty; (2) property not occupied, which in the city of London is exempt from rating to the extent of one-half, and in the rest of London wholly exempt; (3) land in respect of which only one-fourth of the sewers rate is levied, and certain other property, chiefly land, in respect of which only one-fourth of the lighting rate is levied, certain classes of property exempt from rating by statute, certain special property exempt from rating by private Act, and certain property partially exempt from rating.

Property at or under 20*l.* rateable value bears a very different proportion to the total property in different parishes. The highest and lowest proportions are set out in the following table:—

Highest Proportions.		Lowest Proportions.	
Parish.	Proportion per Cent. of Total.	Parish.	Proportion per Cent. of Total.
Plumstead	52	St. Paul, Covent Garden	·04
Bromley	45	St. James	·1
Bethnal Green	39	City of London	·2
Mile End New Town	38	Rolls	·2
Bow	36	St. Martin	·2
Mile End Old Town	35	St. George, Hanover Square	1
Tooting	35	St. Clement Danes	1
Limehouse	32	Kidbrook	1
Bermondsey	31	Paddington	1
Rotherhithe	29	St. Olave	1
Deptford St. Paul	29	Savoy	1
St. George-in-the-East	27	St. Mary-le-Strand	1
Camberwell	27	Old Artillery Ground	2
Newington	27	St. Sepulchre	2
Greenwich	26	St. Giles and St. George	2
Ratcliff	26	Hampstead	2
Charlton	25	Kensington	3
Poplar	25	Stoke Newington	3
St. George-the-Martyr	24	St. Marylebone	3
Fulham	24	Saffron Hill	4
Battersea	24	St. Ann	4
Shadwell	23	Wapping	4
Wandsworth	20	St. Pancras	4
Deptford St. Nicholas	20	Norton Folgate	5
Woolwich	20	Aldgate	6
Lewisham	17	St. Saviour's	6
Hackney	16	Islington	6
Spitalfields	15	St. Andrew	7
Shoreditch	15	St. Luke	8
Hammersmith	15	Chelsea	9
St. Margaret	14	Putney	9
Whitechapel	13	Christchurch	10
Clapham	13	Clerkenwell	10
Lambeth	13	Streatham	11
Penge	13	Lee	11
Eltham	12		

In addition to these causes of differentiation there are other causes which depend upon matters of assessment. These cannot be reduced to statistics, because there are practically no data for the purpose, although the subject is one of considerable importance to the rating units of London. But I can pause here and make some sort of a total, because the differentiation caused by all matters connected with assessments, that is to say, exemptions from rating, loss on empty properties, inequality of assessment, &c., can be given by means of a very elaborate calculation. This result is as follows :—

Parish.	Increase in Rating in each Parish due to Exemptions and Allowances—per Cent. of Rateable Value. 1895-96. £ s. d.	Parish.	Increase in Rating in each Parish due to Exemptions and Allowances—per Cent. of Rateable Value. 1895-96. £ s. d.
St. James, Westminster	– 6 4	St. Thomas, Southwark	– 13 4
St. George, Hanover-sq.	1 3 7	St. Paul, Covent Garden	– 4 4
City of London	– 11 3	Camberwell	1 13 8
St. Margaret and St. John	– – 5 5	Newington	2 15 –
Islington	– 16 8	Plumstead	– 10 –
Deptford St. Nicholas	1 9 2	Rolls	– 8 2
St. Andrew and St. George	1 7 5	St. Giles and St. George	2 – 11
St. Marylebone	1 12 8	St. Olave, Southwark	– 19 11
Paddington	2 5 4	Old Artillery Ground	2 3 6
Ratcliff	– 19 5	Savoy	– – – 9
Deptford St. Paul	1 12 4	Woolwich	1 9 11
St. Anne, Westminster	1 7 5	Clapham	3 3 2
Shoreditch	2 8 2	Kidbrook	2 17 8
Chelsea	1 12 10	Limehouse	4 2 6
Battersea	1 18 9	Norton Folgate	– 11 1
Lambeth	1 4 7	Putney	2 8 11
Penge	1 19 4	Fulham	2 18 5
St. Clement Danes	– 6 11	Mile End New Town	1 6 9
St. Martin-in-the-Fields	1 – –	Wandsworth	1 17 11
St. Mary-le-Strand	– – 17 6	Charlton	1 19 4
Wapping	– 15 11	Lewisham	1 12 3
Hampstead	– 13 11	Whitechapel	– 13 11
Stoke Newington	– 6 7	Christchurch, Spitalfields	2 19 7
Kensington	2 10 9	Eltham	2 1 4
Clerkenwell	1 – 10	Tooting Graveney	4 9 –
St. Saviour	– 18 8	Horselydown	2 8 3
Streatham	1 5 10	St. George, Southwark	3 11 7
St. Sepulchre	2 5 4	Aldgate	1 9 6
St. Luke	1 16 2	Bethnal Green	4 11 11
Hackney	2 1 4	Shadwell	3 14 9
St. George-in-the-East	2 9 1	Bermondsey	3 6 7
St. Pancras	1 9 8	Lee	4 15 6
Saffron Hill, &c.	2 12 4	Poplar	4 1 4
Christchurch, Southwark	2 2 2	Bow	5 2 –
Greenwich	2 5 5	Bromley	6 7 2
Hammersmith	2 14 –	Rotherhithe	2 18 1
Mile End Old Town	1 10 9		

The next causes of differentiation of rates relate to a different class of subject altogether. There is first the early or late date at which parishes or districts in London have become equipped for the purposes of local government. Speaking generally the central parishes were in a fairly forward state at the time of the passing of the Metropolis Management Act in 1855, while the outlying parishes had hardly begun the work of paving, sewerage, workhouses, and other services necessary to bring an area up to the level of the requirements. Since 1855 other necessities have arisen, and some parishes and districts have supplied themselves with those necessities, while others have not; and in case of the riverside

areas the necessity of embanking has arisen, which does not occur n other parishes.

The position of the parishes in regard to these matters is practically tested by the loan operations of the various authorities. The following parishes have the highest rate of loan charge :—

	Rate in the £ of Loan Charge, 1895-96.	Percentage of Loans Outstanding to Rateable Value.
	d.	
Bow	11·38	45·55
St. George, Southwark	11·35	21·97
Hammersmith	11·32	29·22
Fulham	10·38	31·50
St. Luke	10·27	41·89
St. George-in-the-East	8·09	34·68
Lee	8·00	29·29
Plumstead	7·66	28·98
Bethnal Green	7·57	28·12
Putney	7·55	26·06
St. Martin-in-the-Fields	7·41	29·29
Poplar	7·03	26·18
Charlton	7·02	18·00

These examples are in contrast with the following cases of the lowest rate of loan charge :—

	Rate in the £ of Loan Charge, 1895-96.	Percentage of Loans Outstanding to Rateable Value.
	d.	
St. James, Westminster	0·66	2·97
Horselydown	2·26	8·49
St. Olave and St. Thomas, Southwark	2·26	8·49
Paddington	3·00	7·44
St. Anne, Westminster	3 36	8·94
St. George, Hanover Square	3·41	11·03
Aldgate	3·56	13·08
St. Marylebone	3·64	15·14

The differences in these two groups of parishes are due to loans for permanent works to meet requirements for purposes common to all London being in active operation in the first group, and either paid off or nearing the finish in the second group; to loans for libraries, baths, cemeteries, electric lighting, &c., having been incurred by particular localities and not by others; to loans for improvement works raised in some localities and not in others; to loans raised in some localities for works of current purposes, such as wood paving, the equivalent charge for which in other localities is met out of current revenue; and to loans for administrative

purposes, such as town halls, wharves, depôts, &c., which do not occur in all places.

The parish of St. James, Westminster, is the best example of places where the lowest charge for debt is incurred. It has now no municipal loans. It incurred a loan for wood and asphalte paving in 1883, and finished paying it off in 1896; it incurred a loan for the town hall in 1862, and finished paying it off in 1881. It bears its proportion of poor law loans, and it has a small loan for baths.

The comparative figures, with a view of showing the different stages in municipal and poor law equipment at which each parish has arrived, would be very valuable as an important element in the differentiation of rates. But the information for such a purpose is not readily to hand.

The next cause of differentiation of rates arises from inequalities in local administration. Some parishes or unions may administer their poor law so as to give a larger amount of out-door relief than other parishes or unions, and as the whole of out-door relief remains a parish charge, and is unaffected by the equalisation under the common poor fund, this difference operates upon the parish rates; some parishes may maintain parks and open spaces, baths and washhouses, libraries, and other optional services, which other parishes may not; some parishes also may by their adjoining the river have to incur charges in respect of embankment which do not fall upon other parishes. The differentiation of rates in these cases takes the shape of increasing the rates where these services are administered, and the following table shows the result in each parish:—

Name of Parish.	Charges in respect of the Undermentioned Services, causing Differentiation of Rates (per Cent. of Rateable Value).														
	Out-door Relief.			Open Spaces maintained by Local Authorities.		Burial.			Baths and Washhouses.			Libraries.		Other Special Services.			Total.		
	£	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	£	*s.*	*d.*	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*
St. James, Westminster	–	1	4	—		—		–	1	–	—		–	1	1	–	3	5
St. George, Hanover Square	–	2	7	–	3	—		–	8	6	4	7	—			–	15	11
City of London	–	4	2	4	10	—		—			—		–	3	9	–	12	9
St. Margaret and St. John	–	2	7	–	7	–	2	–	14	4	8	4	–	–	2	1	6	2
Islington	1	8	2	1	5	—		–	10	2	—		–	1	–	2	–	9
Deptford St. Nicholas	1	10	6	2	9	—		—			—		–	–	1	1	13	4
St. Andrew and St. George	–	15	8	–	3	—		—			3	11	–	–	2	1	–	–
St. Marylebone	–	8	5	–	11	3	3	–	3	11	—		–	6	7	1	3	1
Paddington	–	3	6	2	5	—		–	4	10	—		–	–	1	–	10	10

Name of Parish.	Charges in respect of the Undermentioned Services, causing Differentiation of Rates (per Cent. of Rateable Value).																	
	Out-door Relief.			Open Spaces maintained by Local Authorities.		Burial.			Baths and Washhouses.			Libraries.			Other Special Services.			Total.		
	£	s.	d.	s.	d.	s.	d.	£	s.	d.	s.	d.	£	s.	d.	£	s.	d.
Ratcliff	–	14	2	1	1	—			—		—		–	–	8	–	15	11
Deptford St. Paul	1	10	6	–	5	—		–	2	7	—		–	–	1	1	13	7
St. Anne, Westminster	–	1	4	1	1	3	3		—		—		–	1	9	–	7	5
Shoreditch	–	13	4	1	2	—		–	4	5	5	9	–	–	8	1	5	4
Chelsea	–	15	5	–	8	—		–	8	4	7	9	–	–	2	1	12	4
Battersea	–	14	5	–	1	6	2	–	5	3	7	10	–	–	4	1	14	1
Lambeth	1	8	10	1	3	—		–	–	9	7	11	–	–	1	1	18	10
Penge	–	18	4	3	2	—			—		7	1	–	–	1	1	8	8
St. Clement Danes	–	7	3	1	1	—			—		—		–	–	5	–	8	9
St. Martin-in-the-Fields	–	7	3	1	2	—		–	1	10	8	4	–	–	5	–	19	–
St. Mary-le-Strand	–	7	3	1	1	—			—		—		–	6	9	–	15	1
Wapping	–	14	2		—	—			—		—		–	4	8	–	18	10
Hampstead	–	4	4	1	9	—		–	3	1	8	–	–	–	5	–	17	7
Stoke Newington	1	4	7		—	—			—		8	2	–	–	4	1	13	1
Kensington	–	2	10	–	6	–	11	–	5	3	3	10	–	–	2	–	13	6
Clerkenwell	–	15	8	1	7	—			—		10	7	–	–	4	1	8	2
St. Saviour	–	15	3		—	–	4	–	19	9	7	9	–	–	4	2	3	5
Streatham	–	14	5	–	2	12	9		—		8	1	–	–	1	1	15	6
St. Sepulchre	–	15	8	–	3	—			—		3	11	–	–	2	1	–	–
St. Luke	–	15	8	5	3	—			—		—		–	–	4	1	1	3
Hackney	1	4	7	2	8	—		–	16	2	—		–	2	4	2	5	9
St. George-in-the-East	2	1	10	3	3	—		–	2	1	—		–	2	5	2	9	7
St. Pancras	–	12	5	2	5	—		–	1	11	—		–	17	7	1	14	4
Saffron Hill, &c.	–	15	8	–	3	—			—		3	11	–	–	2	1	–	–
Christchurch, Southwark	–	15	3	–	8	—			—		7	10	1	8	6	2	12	3
Greenwich	1	10	6	1	9	—		–	3	9	—		–	–	9	1	16	9
Hammersmith	–	9	7	–	7	2	–		—		7	5	–	1	5	1	1	–
Mile End Old Town	1	5	11	–	3	—			—		—		–	1	–	1	7	2
St. Thomas, Southwark	2	1	8	4	3	—			—		—		–	3	7	2	9	6
St. Paul, Covent Garden	–	7	3	1	6	—			—		8	4	1	5	5	2	2	6
Camberwell	2	10	5		—	—		–	15	6	7	11	–	–	1	3	13	11
Newington	–	15	3	3	9	—		–	7	6	7	7	–	1	2	1	15	3
Plumstead	1	18	6	–	1	10	6		—		—		–	–	5	2	9	6
Rolls	–	7	3	1	1	—			—		—		–	–	5	–	8	9
St. Giles and St. George	–	8	–	–	8	—		–	6	9	9	–			—	1	4	5
St. Olave, Southwark	2	1	8	4	3	—			—		—		–	14	11	3	–	10
Old Artillery Ground	–	8	9	1	10	—			—		8	4	–	–	6	–	19	5
Savoy	–	7	3	1	1	—			—		—		–	–	5	–	8	9
Woolwich	1	18	6	3	9	10	1	–	9	3	—		–	5	–	3	6	7
Clapham	–	14	5	–	3	2	7		—		7	4	–	–	1	1	4	8
Kidbrooke	1	18	6		—	—			—		—		–	–	5	1	18	11
Limehouse	–	14	2		—	—			—		—		–	–	6	–	14	8
Norton Folgate	–	8	9	1	10	—			—		8	4	–	–	6	–	19	5
Putney	–	14	5	–	6	14	7		—		7	3	–	–	1	1	16	10
Fulham	–	9	7	4	10	—			—		6	8	–	–	11	1	2	–
Mile End New Town	–	8	9	2	10	—			—		8	4	–	–	8	1	–	7
Wandsworth	–	14	5	–	1	4	8		—		6	1	–	–	1	1	5	4
Charlton	1	18	6		—	—			—		—		–	–	8	1	19	2
Lewisham	1	9	11	3	7	—		–	11	8	4	–	–	–	8	2	9	10
Whitechapel	–	8	9	1	10	—		–	9	7	8	4	–	–	10	1	9	4
Christchurch, Spital-fields	–	8	9	2	2	—			—		8	4	–	–	6	–	19	9

Name of Parish.	Charges in respect of the Undermentioned Services, causing Differentiation of Rates (per Cent. of Rateable Value).																				
	Out-door Relief.			Open Spaces maintained by Local Authorities.		Burial.		Baths and Washhouses.			Libraries.			Other Special Services.			Total.				
	£	s.	d.	s.	d.	s.	d.	£	s.	d.	s.	d.	£	s.	d.	£	s.	d.		
Eltham	1	9	11	—		—		—			—			–	–	2	1	10	1		
Tooting Graveney	–	14	5	—		—		—			—			–	–	1	–	14	6		
Horselydown	2	1	8	4	3	—		—			—			–	–	7	2	6	6		
St. George, Southwark	–	15	3	1	6	—		—			—			–	1	–	–	17	9		
Aldgate	–	8	9	1	10	—		—			8	4		–	–	6	–	19	5		
Bethnal Green	1	2	4	–	5	—		—			—			–	5	8	1	8	5		
Shadwell	–	14	2	—		—		—			—			–	19	4	1	13	6		
Bermondsey	2	1	8	2	9	—		–	3	1	7	8		–	–	5	2	15	7		
Lee	1	9	11	–	9	10	7	—			—			–	–	3	2	1	6		
Poplar	2	2	3	3	1	—		–	3	8	8	4		–	5	8	3	3	–		
Bow	2	2	3	3	6	—		2	5	5	—			–	1	6	4	12	8		
Bromley	2	2	3	4	–	—		—			8	4		–	1	1	2	15	8		
Rotherhithe	2	1	8	—		—		–	15	2	7	8		–	–	11	3	5	5		

The amount of increase stated as due to out-door relief is subject to the qualification that in some parishes and unions the portion of the establishment expenses due to out-door relief is included with the other establishment expenses, while in other parishes it is separately charged to out-door relief. This would cause a slight variation in the amounts entered to out-door relief, but does not materially affect the point to which this table is directed.

It will be seen that differentiation of rates due to those special causes ranges between 4*l.* 12*s.* 8*d.* per cent. in Bow, and 3*s.* 5*d.* per cent. in St. James, Westminster. In out-door relief St. James, Westminster, stands at 1*s.* 4*d.* per cent., and Camberwell at 2*l.* 10*s.* 5*d.* per cent.; for open spaces several parishes do not incur charges at all, while the highest — St. Luke's — incurs 5*s.* 3*d.* per cent.; for burial boards there are only fourteen parishes charged, the highest being Putney at 14*s.* 7*d.* per cent.; for baths and washhouses only twenty-eight parishes are charged, the highest being Bow, at 2*l.* 5*s.* 5*d.* per cent.; for public libraries thirty-eight parishes are charged, the highest being Clerkenwell, at 10*s.* 7*d.* per cent.; other special services range from nil in two parishes, up to Christchurch at 1*l.* 8*s.* 6*d.* per cent. These services account for a considerable proportion of the differentiation in rates.

I will now endeavour to estimate the effect of these special causes of differentiation of rates among the various parishes of the county. The following table summarises those which have already been given in detail, and shows the position occupied by

each parish in the scale of differentiation, (1) before allowing for these ascertained causes of differentiation; and (2) after allowing for these ascertained causes.

It would be instructive, even with the limited information at command, to show in one table the several causes of differentiation which have been ascertained and put into terms of rating. It will be seen that in the same parish there may be causes of increased rating and causes of decreased rating, the net result being the amount of differentiation which does not come under the present systems of equalisation. These figures, imperfect as they must be characterised, are stated in the following table:—

Name of Parish or Place.	1 Increase or Decrease (−) of Rates due to causes of Differentiation—per Cent. of Rateable Value. Special Services.			2 County Exemptions.		3 Parish Exemptions and Allowances.			4 Loan Charges.			5 Total.			6 Total Rates per Cent. of Rateable Value after Deducting Col. 5.			7 Order of Parish. According to Total Rates.	8 Order of Parish. After Deducting Differentiated Rating.
	£	s.	d.	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.		
St. James	−	3	5	2	−	−	6	4	−	4	7	−	16	4	22	18	8	1	1
St. George, Han. Sq.	−	15	11	2	−	1	3	7	1	3	−	3	4	6	23	−	6	2	2
City of London	−	12	9	(−)13	10	−	11	3	1	8	9	1	18	11	25	11	1	3	20
St. Margaret and St. John	1	6	2	2	−	(−)−	5	5	1	19	5	3	2	2	24	12	−	4	15
Islington	2	−	9	2	−	−	16	8	1	3	8	4	3	1	23	19	5	5	8
Deptford St. Nicholas	1	13	4	2	−	1	9	2	1	15	3	4	19	9	23	6	11	6	3
St. And. and St. Geo.	1	−	−	2	−	1	7	5	2	9	3	4	18	8	23	8	−	6	4
St. Marylebone	1	3	1	2	−	1	12	8	1	9	7	4	7	4	24	11	10	8	14
Paddington	−	10	10	2	−	2	5	4	1	−	2	3	18	4	25	5	−	9	17
Ratcliff	−	15	11	2	−	−	19	5	1	5	11	3	3	3	26	−	1	9	27
Deptford St. Paul	1	13	7	2	−	1	12	4	2	−	10	5	8	9	24	2	11	11	9
St. Anne	−	7	5	2	−	1	7	5	1	6	11	3	3	9	26	7	11	11	34
Shoreditch	1	5	4	2	−	2	8	2	2	1	1	5	16	7	23	15	1	11	6
Chelsea	1	12	4	2	−	1	12	10	2	−	7	5	7	9	24	8	1	14	10
Battersea	1	14	1	2	−	1	18	9	1	14	−	5	8	10	24	11	2	15	13
Lambeth	1	18	10	2	−	1	4	7	2	5	7	5	11	−	24	9	−	15	12
Penge	1	8	8	2	−	1	19	4	2	12	2	6	2	2	23	17	10	15	7
St. Clement Danes	−	8	9	2	−	−	6	11	1	13	9	2	11	5	27	8	7	15	45
St. Martin	−	19	0	2	−	1	−	−	2	18	7	4	19	7	25	−	5	15	16
St. Mary-le-Strand	−	15	1	2	−	(−)−	17	6	1	13	9	1	13	4	28	8	4	20	51
Wapping	−	18	10	2	−	−	15	11	1	9	−	3	5	9	27	2	7	21	40
Hampstead	−	17	7	2	−	−	13	11	1	13	3	3	6	9	27	1	7	21	39
Stoke Newington	1	13	1	2	−	−	6	7	2	4	6	4	6	2	26	2	2	21	30
Kensington	−	13	6	2	−	2	10	9	1	8	7	4	14	10	25	17	8	24	23
Clerkenwell	1	8	2	2	−	1	−	10	2	16	4	5	7	4	25	9	4	25	19
St. Saviour	2	3	5	2	−	−	18	8	1	11	2	4	15	3	26	1	5	25	29
Streatham	1	15	6	2	−	1	5	10	1	15	3	4	18	7	25	18	1	25	24
St. Sepulchre	1	−	−	2	−	2	5	4	2	9	3	5	16	7	25	12	7	28	21
St. Luke	1	1	3	2	−	1	16	2	4	5	6	7	4	11	24	8	5	29	11
Hackney	2	5	9	2	−	2	1	4	1	14	1	6	3	2	25	18	6	30	26
St. George, East	2	9	7	2	−	2	9	1	3	7	7	8	8	3	23	13	5	30	5

Name of Parish or Place.	1 Increase or Decrease (−) of Rates due to causes of Differentiation per Cent. of Rateable Value. Special Services.			2 County Exemptions.		3 Parish Exemptions and Allowances.			4 Loan Charges.			5 Total.			6 Total Rates per Cent. of Rateable Value after Deducting Col. 5.			7 Order of Parish. According to Total Rates.	8 Order of Parish. After Deducting Differentiated Rating.
	£	s.	d.	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.		
St. Pancras	1	14	4	2	–	1	9	8	2	12	8	5	18	8	26	3	–	30	31
Saffron Hill, &c.	1	–	–	2	–	2	12	4	2	9	3	6	3	7	25	18	1	30	24
Christchurch	2	12	3	2	–	2	2	2	1	11	–	6	7	5	26	–	6	34	28
Greenwich	1	16	9	2	–	2	5	5	2	–	9	6	4	11	26	5	1	35	32
Hammersmith	1	1	–	2	–	2	14	–	3	6	5	7	3	5	25	6	7	35	18
Mile End Old Town	1	7	2	2	–	1	10	9	2	4	5	5	4	4	27	5	8	35	41
St. Thomas	2	9	6	2	–	–	13	4	–	18	9	4	3	7	28	14	9	38	56
St. Paul, Covent Garden	2	2	6	2	–	–	4	4	1	13	9	4	2	7	29	4	1	39	59
Camberwell	3	13	11	2	–	1	13	8	1	19	6	7	9	1	25	17	7	39	22
Newington	1	15	3	2	–	2	15	–	2	–	–	6	12	3	26	14	5	39	37
Plumstead	2	9	6	2	–	–	10	–	2	12	11	5	14	5	27	12	3	39	46
Rolls	–	8	9	2	–	–	8	2	1	13	9	2	12	8	30	14	–	39	68
St. Giles and St. Geo.	1	4	5	2	–	2	–	11	1	12	–	4	19	4	28	7	4	39	50
St. Olave	3	–	10	2	–	–	19	11	–	18	9	5	1	6	28	9	4	45	53
Old Artillery Ground	–	19	5	2	–	2	3	6	1	9	8	4	14	7	29	–	5	46	57
Savoy	–	8	9	2	–	(-)–	–	9	1	13	9	2	3	9	31	11	3	46	71
Woolwich	3	6	7	2	–	1	9	11	2	6	7	7	5	1	26	9	11	46	35
Clapham	1	4	8	2	–	3	3	2	2	6	5	6	16	3	27	7	1	49	42
Kidbrook	1	18	11	2	–	2	17	8	1	10	6	6	9	1	27	14	3	49	47
Limehouse	–	14	8	2	–	4	2	6	1	17	–	6	16	2	27	7	2	49	43
Norton Folgate	–	19	5	2	–	–	11	1	1	9	8	3	2	2	31	5	4	52	70
Putney	1	16	10	2	–	2	8	11	2	12	4	7	–	1	27	7	5	52	44
Fulham	1	2	–	2	–	2	18	5	4	2	11	8	5	4	26	6	4	54	33
Mile End New Town	1	–	7	2	–	1	6	9	1	12	8	4	2	–	30	9	8	54	67
Wandsworth	1	5	4	2	–	1	17	11	1	19	5	5	4	8	29	11	2	56	63
Charlton	1	19	2	2	–	1	19	4	2	11	1	6	11	7	28	8	5	57	52
Lewisham	2	9	10	2	–	1	12	3	2	5	6	6	9	7	28	10	5	57	54
Whitechapel	1	9	4	2	–	–	13	11	1	9	8	3	14	11	31	5	1	57	69
Spitalfields	–	19	9	2	–	2	19	7	1	9	8	5	11	–	29	17	4	60	64
Eltham	1	10	1	2	–	2	1	4	2	7	1	6	–	6	29	7	10	60	62
Tooting Graveney	–	14	6	2	–	4	9	–	1	11	6	6	17	–	28	11	4	60	55
Horselydown	2	6	6	2	–	2	8	3	–	18	9	5	15	6	30	1	2	63	66
St. George, Southwark	–	17	9	2	–	3	11	7	4	14	9	9	6	1	26	10	7	63	36
Aldgate	–	19	5	2	–	1	9	6	1	9	8	4	–	7	31	18	10	65	72
Bethnal Green	1	8	5	2	–	4	11	11	3	4	1	9	6	5	26	16	6	66	38
Shadwell	1	13	6	2	–	3	14	9	2	–	7	7	10	10	29	19	2	67	65
Bermondsey	2	15	7	2	–	3	6	7	2	4	10	8	9	0	29	5	2	68	60
Lee	2	1	6	2	-	4	15	6	2	15	4	9	14	4	28	4	–	69	48
Poplar	3	3	–	2	–	4	1	4	2	13	5	9	19	9	29	7	9	70	61
Bow	4	12	8	2	–	5	2	–	2	13	6	12	10	2	28	6	6	71	49
Bromley	2	15	8	2	–	6	7	2	2	11	2	11	16	–	29	–	8	71	58
Rotherhithe	3	5	5	2	–	2	18	1	1	18	6	8	4	–	33	17	8	73	73

The result of this is to show that the range of differentiation, after accounting for these special causes, is still very considerable, namely, from 22*l.* 18*s.* 8*d.* per cent. in St. James's, to 33*l.* 17*s.* 8*d.* per cent. in Rotherhithe.

This account of the differentiation of rates shows how important the subject is to the London ratepayer. And yet there is no means of affording the ratepayers any adequate information on the point. Considering the frequency of removals in London from one rating area to another, it is at least due to the ratepayer that he should be able to compare the rates of one parish with the rates of another. This at present he cannot do. Few reforms would be more beneficial than the adoption of a common form of demand note in every parish, and this could easily be accomplished by empowering the County Council to prescribe such a form as would meet the case. At present there are no two forms alike, and there is no single form which gives correct and adequate information as to local rates.

The incidence of rates levied on the rateable value of property is a subject of much controversy, and I can do no more than express my views of the matter. I believe, in the first place, that all local taxation should properly fall upon the owners of site value, because these owners benefit by local expenditure. We have seen that much of local expenditure falls upon allocated imperial taxation and upon local indirect taxation, and my conclusion is that owners are relieved, by this system, of a certain amount of taxation which should properly fall upon them. I believe, in the second place, that all direct taxation on rateable value of property does at present fall upon owners, but in the most unfair proportions. By reason of the absurd system of including in rateable value the value of the buildings and deducting from the total a percentage for repairs, the falling of the rates on individual hereditaments is most unequal and burdensome. This question, however, opens up a subject which cannot now be dealt with, but it would have been unpardonable in an examination of a local taxation system such as that of London to have passed this question over in absolute silence.

It would not be proper to finish a paper on London local taxation, without referring to the cases of taxation in other hands than those of public authorities. They are as follows:—

(*a*) Appropriations from Imperial taxes—Voluntary Schools.

(*b*) Indirect taxation:—
Covent Garden Market.
Spitalfields Market.
Shadwell Market.

(*c*) Direct taxation:—

Chelsea Waterworks Company.
East London Waterworks Company.
Grand Junction Waterworks Company.
Kent Waterworks Company.
Lambeth Waterworks Company.
New River Waterworks Company.
Southwark and Vauxhall Water Company.
West Middlesex Waterworks Company.

The amount appropriated to London out of imperial taxation in respect of voluntary schools is made up of, first, the annual parliamentary grants based on average attendance and efficiency, these amounted in 1894-95 to 166,267*l.*; secondly, the fee grants under the Elementary Education Act of 1891, based on the number of children between the ages of 3 and 15 in average attendance, these amounted in 1894-95 to about 83,900*l.*; thirdly, the Science and Art grants based on examination in specific subjects, these amounted in 1894-95 to 953*l.* These are grants in which all elementary schools (*i.e.*, board as well as voluntary) participate alike, the total amount paid to voluntary schools in London in 1894-95 being about 251,120*l.*

By the Voluntary Schools Act of 1897, an additional grant is made to voluntary schools amounting to 5*s.* per scholar in average attendance. The total grant estimated for England and Wales for the year is 616,000*l.*, and assuming that London receives 5*s.* in respect of each scholar in average attendance (1894-95), its share might be estimated at about 44,000*l.*

The latest information about the tolls levied from the markets in private hands is contained in the Markets Commission Report of 1891 (vol. xiii, part 1, p. 26). The amount of taxation is as follows:—

	£	*s.*	*d.*
Covent Garden	13,000	6	2
Spitalfields	4,857	6	10
Shadwell	400	–	–

The amount of taxation levied by the water companies is not to be obtained from the published accounts of the companies, because the total revenue of each of the companies, as stated in the accounts, includes the amount received from sale of water by meter, and from extra charges. From a return prepared for the Council of the property liable to be rated for water purposes within the

areas of the eight companies, it appears that the total amount raised by rates in London by each of the companies may be estimated as follows:—

Company.	Amount.	Rates per £ of Rateable Value.	Rate per Cent. of Rateable Value.
	£	*d.*	£ *s.* *d.*
Chelsea	99,204	8·6	3 11 7
East London	133,603	12·0	5 – –
Grand Junction	103,384	8·0	3 6 5
Kent	78,919	12·7	5 5 9
Lambeth	154,767	15·4	6 8 2
New River	343,046	8·4	3 10 1
Southwark and Vauxhall	164,148	12·0	5 – –
West Middlesex	143,830	8·0	3 6 7
Total	1,220,901	9·8	4 1 10

These rates are not raised equally over any established rating area. They vary, not only in different parts of the county, but in different parts of the same parish. The highest rated parish for water is Penge, where the charge is equal to an average rate of *1s.* 3·8*d.* in the £, and the lowest is the city of London, where the charge is equal to an average rate of 7·5*d.* in the £.

The present anomalous position in which the ratepayers of London are placed in respect of the rating for water supply is not confined to the one cause of differences in charge, serious as these differences are, but also to the creation of different rating areas marked off from the rest of the county on the one hand by an arbitrary line fixed for the convenience of the companies and, on the other hand, extended beyond the county boundary. The principle of all valuation for rating is that higher valuations shall assist the lower valuations, and to such an extent is this recognised in London, that the common poor fund and the equalisation fund were established to extend the principle to the case of local charges, which are made thereby a common charge on the whole county, as in the case of services administered by central authorities. The county area, therefore, has become by this plan, which is peculiar to London, an area in which the incidence of taxation

is specially marked off from that obtaining in neighbouring counties, and every extension of the area of taxation beyond the county boundary, as in the case of water, constitutes a departure from the principle of common rating for common purposes, which can only be justified by very exceptional circumstances.

I have, in conclusion, to offer an apology for using figures which I have to a great extent already used in giving evidence to the Royal Commission on Local Taxation; but my apology must be accompanied by an explanation: there are no other figures. It might be expected that the local taxation accounts published by the Local Government Board would at least concern itself with taxation. But this seems to be the very last object in view, at least it is not an object which is attained. It is not possible to ascertain the local taxation of a single taxing unit in the kingdom. I do not think it would be going too far to say that the real taxation account of any one of the three kingdoms is unascertainable.

Certainly that of the capital of the empire is not ascertainable. The statement published by the Local Government Board of metropolitan taxation does not show receipts and expenditure as they affect local taxation in respect of a taxing area. Thus, the principle on which receipts from other local authorities and payments to other local authorities are dealt with, is that the authority actually making the payment for any service is credited with the whole amount paid, even though part of it is recovered from another authority for whom the service is rendered and upon whose local taxation the charge actually falls. For instance, the London County Council pays interest on behalf of Middlesex, and recovers it from the Middlesex County Council. The charge is, therefore, defrayed out of the local taxation of Middlesex; the local taxation returns, however, show it to be paid out of the local taxation of London.

Again, the local taxation returns ignore amounts set aside for repayment of debt through the council's consolidated loans fund, although these amounts are actually provided out of local taxation. The consequence is that every year the expenditure of the London County Council is shown at an amount much below the receipts, while in 1929, when the $3\frac{1}{2}$ per cent. metropolitan consolidated stock is redeemable, the council will be credited with a payment of some millions in excess of its receipts.

Another point is that the statistics relating to poor law authorities only relate to that monstrosity of statistics, the registration county, and therefore in the case of London exclude those for Penge.

Several adjustments are necessary. The Thames Conservancy

(lower navigation) account is not included in the summary given in the local taxation returns, although it levies taxes on London. The amounts raised for equalisation purposes should be added to the county rates, and deducted from the parish rates. Receipts from imperial taxation, from indirect taxation, from municipal property, and from other sources should be separately stated.

APPENDIX.

A.—*Expenditure by Local Authorities in respect of each Parish in the Year* 1895-96, *Rateable*

1	2			3			4			5			6			7			8	
Parishes.	Maintenance of the Poor (In-door).			Out-door Relief (including Casual Wards, Houseless Poor, and Dispensary).			Maintenance of Lunatics.			Education.			Sewerage and Drainage.			Roads (including Scavenging and Dust Removal), Bridges, Embankments, &c.			Public Health (so far as it is separately Charged).	
Central London, North.	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	*s.*	*d.*
1. City of London	2	11	1	–	4	2	–	6	5	7	3	1	–	19	1	3	–	2	10	7
2. Aldgate	10	10	5	–	8	9	2	2	7	5	12	9	1	17	3	6	8	7	4	6
3. Whitechapel	10	9	10	–	8	9	2	2	7	5	12	9	1	17	3	6	8	7	4	6
4. Mile End New Town	10	9	10	–	8	9	2	2	7	5	12	9	1	17	3	6	8	7	4	6
5. Christchurch, Spitalfields.....	10	9	10	–	8	9	2	2	7	5	12	9	1	17	3	6	8	7	4	6
6. Old Artillery Ground	10	9	10	–	8	9	2	2	7	5	12	9	1	17	3	6	8	7	4	6
7. Norton Folgate.....	10	9	10	–	8	9	2	2	7	5	12	9	1	17	3	6	8	7	4	6
8. Shoreditch.....	7	3	3	–	13	4	1	18	2	5	13	4	1	12	11	3	18	9	9	6
9. St. Luke	9	15	8	–	15	8	1	17	11	5	12	9	1	–	5	4	15	1	3	8
10. Clerkenwell	9	15	10	–	15	8	1	17	11	5	12	9	–	19	–	5	–	–	8	11
11. Charterhouse	9	15	8	–	15	8	1	17	11	5	12	9	–	10	10	–	2	3	1	3
12. Furnival's Inn	9	15	8	–	15	8	1	17	11	5	12	9	–	10	10	–	2	3	1	3
13. Staple Inn	9	15	8	–	15	8	1	17	11	5	12	9	–	10	10	–	2	3	1	3
14. St. Sepulchre.....	9	15	8	–	15	8	1	17	11	5	12	9	–	17	5	2	16	11	6	9
15. Saffron Hill	9	15	8	–	15	8	1	17	11	5	12	9	–	17	5	2	16	11	6	9
16. St. Andrew and St. George	9	15	8	–	15	8	1	17	11	5	12	9	–	17	5	2	16	11	6	9
17. Glasshouse Yard	2	11	1	–	4	2	–	9	3	5	12	9	–	17	5	2	16	11	6	9
18. Gray's Inn.....	8	15	6	–	15	8	1	17	11	5	12	9	–	10	10	–	2	3	7	5
19. Lincoln's Inn		—			—		–	4	–	5	12	9	–	10	10	–	2	3	2	9
20. Inner Temple	1	10	11	–	4	2	–	5	3	5	12	9	–	10	10	–	2	3	–	6
21. Middle Temple.....	1	10	11	–	4	2	–	5	3	5	12	9	–	10	10	–	2	3	–	6
22. St. Giles and St. George	5	17	10	–	8	–	1	2	9	5	12	9	2	11	3	6	10	6	3	6
23. St. Martin.....	5	9	9	–	7	3	–	12	11	5	12	9	–	14	–	2	6	1	4	8
24. Rolls	5	9	8	–	7	3	–	12	11	5	12	9	1	16	3	3	4	–	10	5
25. St. Clement Danes...	5	9	8	–	7	3	–	12	11	5	12	9	1	16	3	3	4	–	10	5
26. St. Mary-le-Strand...	5	9	8	–	7	3	–	12	11	5	12	9	1	16	3	3	4	–	10	5
27. Savoy	5	9	8	–	7	3	–	12	11	5	12	9	1	16	3	3	4	–	10	5
28. St. Paul, Covent Garden	5	9	8	–	7	3	–	12	11	5	12	9	1	16	3	3	4	–	10	5
29. St. Anne, Soho	3	19	7	–	1	4	–	13	8	5	12	9	1	16	3	3	4	–	10	5
30. St. James	3	19	7	–	1	4	–	13	8	5	12	9	–	17	2	2	6	2	3	10

APPENDIX.

analysed according to the principal heads of Charge; reduced to Percentages of Value.

9	10	11	12	13	14	15	16	17
Lighting.	Police and Justice.	Fire Brigade.	Parks, Gardens, and Open Spaces.	Other Ordinary Services.	Loans for all Services (Interest and Repayment).	Establishment (including Legal and Parliamentary) for all Services (where not separately Charged).	Special Services.	Total Expenditure.
£ s. d.	£ s. d.	s. d.	s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
– 10 6	4 10 11	9 –	11 2	– 11 8	12 7 4	4 2 1	3 19 4	41 16 7
1 2 7	5 – 5	9 –	8 1	– 16 7	6 19 –	2 10 2	– 11 6	45 2 2
1 2 7	5 – 5	9 –	8 1	– 16 4	7 13 5	2 7 –	1 6 –	46 7 1
1 2 7	5 – 5	9 -	9 1	– 19 3	7 2 –	3 1 6	– 11 8	45 19 9
1 2 7	5 – 5	9 –	8 5	– 17 4	6 19 –	2 9 11	– 11 6	45 2 5
1 2 7	5 – 5	9 –	8 1	– 19 5	6 19 –	3 2 4	– 11 6	45 16 7
1 2 7	5 – 5	9 –	8 1	1 – 3	6 19 –	3 1 10	– 11 6	45 16 11
– 17 5	5 – 5	9 –	7 5	– 14 9	7 13 –	1 11 1	– 10 1	38 12 5
– 15 3	5 – 5	9 –	11 6	– 13 -	9 14 10	2 2 10	– 2 4	43 10 4
– 18 9	5 – 5	9 –	7 10	– 14 9	8 7 6	1 12 10	– 8 8	42 9 10
—	5 – 5	9 –	6 3	2 9 9	7 6 1	1 6 –	– 2 2	35 16 –
—	5 – 5	9 –	6 3	1 – –	7 6 1	– 8 9	– 2 2	33 9 –
—	5 – 5	9 –	6 3	1 10 11	7 6 1	– 8 9	– 2 2	33 19 11
– 10 9	5 – 5	9 –	6 6	1 8 5	7 19 6	2 4 4	– 5 5	40 7 5
– 10 9	5 – 5	9 –	6 6	1 1 5	7 19 6	2 2 4	– 5 5	39 18 5
– 10 9	5 – 5	9 –	6 6	– 17 11	7 19 6	1 15 11	– 5 5	39 8 6
– 10 9	5 – 5	9 –	7 10	– 15 11	6 6 10	2 8 7	– 16 8	29 14 4
—	5 – 5	9 –	6 3	1 15 2	5 2 11	– 8 9	– 2 2	31 7 –
—	5 – 5	9 –	6 3	5 4 5	5 2 11	– 8 9	– 2 –	23 6 4
—	3 8 7	9 –	6 3	1 8 7	4 13 –	– 8 8	– 4 6	19 5 3
—	3 8 7	9 –	6 3	1 8 7	4 13 –	– 8 8	– 4 6	19 5 3
1 2 11	5 – 5	9 –	6 11	– 11 7	7 10 9	2 2 2	1 3 8	40 14 –
– 10 6	5 – 5	9 –	7 5	– 11 1	8 11 1	1 11 –	– 16 2	33 4 1
– 14 6	5 – 5	9 –	7 4	– 15 3	7 3 1	1 12 4	– 2 5	33 17 7
– 14 6	5 – 5	9 –	7 4	1 – 5	7 3 1	1 5 1	– 2 5	33 15 6
– 14 6	5 – 5	9 –	7 4	1 – 10	7 3 1	1 12 3	– 8 9	34 9 5
– 14 6	5 – 5	9 –	7 4	– 14 2	7 3 1	1 5 2	– 2 5	33 9 4
– 14 6	5 – 5	9 –	7 9	– 16 6	7 5 5	1 15 8	1 13 2	35 15 8
– 14 6	5 – 5	9 –	7 4	1 1 3	6 16 3	1 8 10	– 6 4	32 1 11
– 8 9	5 – 5	9 –	6 3	– 9 7	5 14 11	– 19 8	– 9 9	27 12 10

A—*Contd. Expenditure by Local Authorities in respect of each Parish in* 1895-96, *analysed*

Parishes.	2 Maintenance of the Poor (In-door).			3 Out-door Relief (including Casual Wards, Houseless Poor, and Dispensary).			4 Maintenance of Lunatics.			5 Education.			6 Sewerage and Drainage.			7 Roads (including Scavenging and Dust Removal), Bridges, Embankments, &c.			8 Public Health (so far as it is separately Charged).	
Central London, South.	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	*s.*	*d.*
31. Newington	8	19	3	–	15	3	2	3	8	5	12	9	1	13	5	8	6	1	3	9
32. St. George-the-Martyr	8	19	3	–	15	3	2	3	8	5	12	9	1	9	2	5	17	10	5	3
33. Christchurch, Southwark	8	19	3	–	15	3	2	3	8	5	12	9	1	1	3	3	14	1	3	5
34. St. Saviour	8	19	3	–	15	3	2	3	8	5	12	9	1	1	3	3	14	1	3	5
35. St. Thomas	9	9	11	2	1	8	1	9	–	5	12	9	1	4	–	3	7	11	8	7
36. St. Olave	9	9	11	2	1	8	1	9	–	5	12	9	1	4	–	3	7	11	8	7
37. Horselydown	9	9	11	2	1	8	1	9	–	5	12	9	1	4	–	3	7	11	8	7
38. Bermondsey	9	9	11	2	1	8	1	9	–	5	12	9	1	3	2	5	5	–	6	9
39. Rotherhithe	9	9	11	2	1	8	1	9	–	5	12	9	1	15	10	5	19	3	18	4
East London.																				
40. St. George-in-the-East	16	11	1	2	1	10	2	4	–	5	12	9	1	2	7	4	19	9	13	6
41. Wapping	11	16	2	–	14	2	1	15	4	5	12	9	1	4	10	4	12	5	8	4
42. Shadwell	11	16	2	–	14	2	1	15	4	5	12	9	1	4	10	4	12	5	8	8
43. Ratcliff	11	16	2	–	14	2	1	15	4	5	12	9	1	4	10	4	12	5	8	4
44. Limehouse	11	16	6	–	14	2	1	15	4	5	12	9	1	4	10	4	12	5	8	4
45. Poplar	12	7	2	2	2	3	2	–	7	5	12	9	1	7	2	5	7	11	11	5
46. Bromley	12	8	3	2	2	3	2	–	7	5	12	9	1	7	2	5	7	11	11	4
47. Bow	12	7	2	2	2	3	2	–	7	5	12	9	1	7	2	5	7	11	11	2
48. Mile End Old Town	11	18	11	1	5	11	2	17	6	5	12	9	1	6	3	8	6	9	8	1
49. Bethnal Green	15	–	6	1	2	4	3	7	5	5	12	9	1	12	11	6	5	5	13	4
North London.																				
50. Hackney	6	9	–	1	4	7	1	17	7	5	12	9	1	4	7	5	18	3	6	3
51. Stoke Newington	6	9	–	1	4	7	1	17	7	5	12	9	–	16	–	4	3	9	9	1
52. Islington	4	7	9	1	8	2	1	6	10	5	12	9	1	2	3	3	17	–	10	5
53. St. Pancras	7	16	1	–	12	5	1	12	2	5	12	9	1	3	2	5	2	5	6	5
54. Hampstead	2	13	2	–	4	4	–	11	11	5	12	9	1	–	7	5	11	11	3	3
55. St. Marylebone	6	–	10	–	8	5	1	5	–	5	12	9	1	2	–	3	10	10	5	6

according to the principal heads of Charge; reduced to Percentages of Rateable Value.

9 Lighting.	10 Police and Justice.	11 Fire Brigade.	12 Parks, Gardens, and Open Spaces.	13 Other Ordinary Services.	14 Loans for all Services (Interest and Repayment).	15 Establishment (including Legal and Parliamentary) for all Services (where not separately Charged).	16 Special Services.	17 Total Expenditure.
£ s. d.	£ s. d.	s. d.	s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
– 16 9	5 – 5	9 –	10 –	1 1 –	7 14 11	2 8 2	– 9 8	46 4 1
– 16 8	5 – 5	9 –	7 9	– 17 5	10 4 1	2 11 1	– 3 –	45 12 7
– 11 4	5 – 5	9 –	6 11	1 1 7	7 – 4	2 1 7	1 19 3	41 – 1
– 11 4	5 – 5	9 –	6 3	– 15 7	8 10 4	– 10 –	5 13 9	46 6 4
– 16 4	5 – 5	9 –	10 6	– 19 5	6 8 1	2 6 7	– 5 7	40 9 9
– 16 4	5 – 5	9 –	10 6	– 19 4	6 8 1	2 1 11	– 16 11	40 16 4
– 16 4	5 – 5	9 –	10 6	1 – 6	6 8 1	2 5 3	– 2 7	40 6 6
– 13 11	5 – 5	9 –	9 –	– 12 6	8 – 8	2 2 9	– 15 7	43 12 1
– 15 3	5 – 5	9 –	6 3	– 18 10	8 4 –	2 9 4	1 7 9	46 17 7
1 3 –	5 – 5	9 –	9 6	1 3 11	8 16 11	1 15 –	1 1 9	53 5 –
1 – 10	5 – 5	9 –	6 3	– 13 11	6 18 4	2 15 8	– 6 8	43 15 1
1 – 10	5 – 5	9 –	6 3	– 16 6	7 9 11	3 9 11	1 1 4	45 18 6
1 – 10	5 – 5	9 –	7 4	– 16 6	6 15 3	2 10 1	– 2 8	43 6 1
1 – 10	5 – 5	9 –	6 3	– 14 4	7 6 4	2 14 10	– 2 6	43 18 10
– 17 6	5 – 5	9 –	9 4	1 1 4	8 7 10	2 3 2	1 6 5	49 4 3
– 17 6	5 – 5	9 –	10 3	1 7 7	8 – 6	2 14 –	– 19 7	49 9 1
– 17 6	5 – 5	9 –	9 9	1 3 –	10 4 –	2 10 8	1 18 7	52 1 11
1 1 3	5 – 5	9 –	6 6	– 17 2	7 13 9	2 6 7	– 3 –	49 13 10
– 17 1	5 – 5	9 –	6 8	– 13 9	8 13 5	1 14 11	– 7 8	51 17 7
1 – 3	5 – 5	9 –	8 11	– 15 1	7 8 10	1 8 1	– 16 1	39 19 8
– 18 –	5 – 5	9 –	6 3	1 9 8	7 16 2	1 16 6	– 9 3	38 18 –
– 17 4	5 – 5	9 –	7 8	– 12 2	7 1 6	1 10 5	1 – 11	35 4 7
1 – 9	5 – 5	9 –	8 8	– 16 2	8 5 6	1 5 8	1 9 9	41 1 4
1 11 2	5 – 5	9 –	8 –	– 11 7	7 10 7	1 14 11	1 3 3	34 6 10
– 14 7	5 – 5	9 –	7 2	– 11 11	6 19 5	1 1 3	– 12 1	34 1 2

A—*Contd. Expenditure by Local Authorities in respect of each Parish in* 1895-96, *analysed*

1 Parishes.	2 Maintenance of the Poor (In-door).			3 Out-door Relief (including Casual Wards, Houseless Poor, and Dispensary).			4 Maintenance of Lunatics.			5 Education.			6 Sewerage and Drainage.			7 Roads (including Scavenging and Dust Removal), Bridges, Embankments, &c.			8 Public Health (so far as it is separately Charged).	
West London.	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	*s.*	*d.*
56. Paddington	3	4	8	–	3	6	–	18	8	5	12	9	1	1	6	4	2	6	7	3
57. St. George, Hanover Square	3	5	8	–	2	7	–	11	–	5	12	9	–	18	1	3	11	8	1	5
58. St. Margaret and St. John	3	5	8	–	2	7	–	11	–	5	12	9	1	5	–	2	9	1	3	4
59. St. Peter, Westminster	3	5	8	–	2	7	–	11	–	5	12	9	–	10	10	–	2	3	1	3
60. Chelsea	6	3	5	–	15	5	1	6	9	5	13	7	–	18	9	5	7	9	3	2
61. Kensington	4	3	6	–	2	10	–	17	6	5	12	9	–	15	4	3	18	5	6	1
62. Hammersmith	5	10	1	–	9	7	1	5	2	5	12	9	1	–	2	4	18	–	7	8
63. Fulham	5	10	1	–	9	7	1	5	2	5	12	9	1	7	2	5	16	3	10	8
South-West London.																				
64. Putney	4	13	8	–	14	5	1	4	4	5	12	9	1	–	6	5	4	7	1	3
65. Wandsworth	4	13	8	–	14	5	1	4	4	5	12	9	1	1	9	5	13	6	1	3
66. Tooting	4	13	8	–	14	5	1	4	4	5	12	9	1	9	4	6	–	9	1	3
67. Streatham	4	13	8	–	14	5	1	4	4	5	12	9	1	–	10	7	9	2	1	3
68. Clapham	4	14	–	–	14	5	1	4	4	5	12	9	–	15	5	6	10	6	1	3
69. Battersea	4	13	10	–	14	5	1	4	4	5	12	9	1	4	8	6	2	1	4	–
South London.																				
70. Lambeth	6	3	8	1	8	10	1	17	2	5	12	9	1	1	–	4	9	9	7	3
71. Camberwell	7	18	4	2	10	5	1	14	1	5	12	9	1	9	3	6	9	8	11	9
South-East London.																				
72. St. Paul, Deptford	8	1	7	1	10	6	1	10	7	5	12	9	–	15	9	4	3	1	6	2
73. St. Nicholas, Deptford	8	1	7	1	10	6	1	10	7	5	12	9	–	14	11	2	16	8	6	4
74. Greenwich	8	1	7	1	10	6	1	10	7	5	12	9	1	1	10	4	9	11	8	5
75. Woolwich	7	16	7	1	18	6	1	9	4	5	17	4	–	18	9	6	12	5	1	9
76. Plumstead	7	16	11	1	18	6	1	9	4	5	12	9	2	11	5	6	11	2	17	3
77. Charlton	7	16	7	1	18	6	1	9	4	5	12	9	–	13	4	6	7	4	11	8
78. Kidbrook	7	16	7	1	18	6	1	9	4	5	12	9	5	14	11	1	2	5	6	11
79. Eltham	5	16	7	1	9	11	–	18	11	5	12	9	4	11	10	6	1	5	10	7
80. Lee	5	17	1	1	9	11	–	18	11	5	12	9	–	13	11	4	18	10	5	11
81. Lewisham	5	16	7	1	9	11	–	18	11	5	12	9	1	–	2	5	6	8	11	8
82. Penge	2	18	11	–	18	4	–	16	5	5	12	9	–	15	7	4	4	10	11	8
Average for the whole county	5	17	5	–	15	3	1	4	8	5	16	5	4	9	10	1	2	8	7	2

according to the principal heads of Charge; reduced to Percentages of Rateable Value.

9	10	11	12	13	14	15	16	17
Lighting.	Police and Justice.	Fire Brigade.	Parks, Gardens, and Open Spaces.	Other Ordinary Services.	Loans for all Services (Interest and Repayment).	Establishment (including Legal and Parliamentary) for all Services (where not separately Charged).	Special Services.	Total Expenditure.
£ s. d.	£ s. d.	s. d.	s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
– 11 7	5 – 5	9 –	8 8	– 10 3	6 14 3	1 1 –	– 13 –	30 19 –
– 8 –	5 – 5	9 –	6 6	– 12 5	6 19 –	– 16 5	– 17 10	29 12 9
– 13 7	5 – 5	9 –	6 10	– 11 5	7 16 8	1 7 4	1 – 9	30 15 5
4 18 6	5 – 5	9 –	6 3	2 19 5	6 – 9	– 8 10	– 2 –	30 11 6
– 12 3	5 – 5	9 –	6 11	– 13 –	7 14 11	1 11 3	– 15 8	37 12 3
– 12 6	5 – 5	9 –	6 9	– 11 2	7 2 8	1 6 10	– 10 2	31 15 11
– 19 11	5 – 5	9 –	6 10	– 17 5	9 – –	1 16 –	– 13 3	38 6 3
1 – 6	5 – 5	9 –	11 1	– 16 10	9 15 8	1 18 5	– 14 2	40 17 9
1 3 –	5 – 5	9 –	6 9	1 1 6	8 11 11	2 10 5	1 7 1	39 1 7
1 6 5	5 – 5	9 –	6 4	1 6 3	7 19 6	2 10 1	– 15 9	38 15 5
1 11 2	5 – 5	9 –	6 3	1 5 3	7 – 10	3 4 –	– 2 1	38 15 6
1 – 6	5 – 5	9 –	6 5	– 19 11	7 12 9	2 3 3	– 16 4	39 5 –
1 1 8	5 – 5	9 –	6 6	1 6 4	7 18 –	1 19 10	– 11 5	38 5 10
1 – 7	5 – 5	9 –	6 4	– 15 8	7 15 7	2 7 1	1 2 –	38 12 9
– 18 9	5 – 5	9 –	7 6	– 16 8	7 17 8	1 6 10	– 11 11	38 9 2
1 3 7	5 – 5	9 –	6 3	– 15 4	8 4 5	1 14 6	1 3 10	45 3 7
– 16 10	5 – 5	9 –	6 8	– 19 8	7 13 7	1 12 11	– 10 4	39 9 10
– 10 3	5 – 5	9 –	9 –	– 17 5	7 4 7	2 – 8	– 2 1	37 6 9
1 2 –	5 – 5	9 –	8 –	1 4 2	7 11 5	1 16 7	– 19 3	41 6 5
– 16 1	5 – 5	9 –	10 –	– 17 8	8 3 1	2 4 10	2 1 2	44 16 11
1 1 9	5 – 5	9 –	6 4	1 1 10	8 13 2	3 – 5	– 8 –	46 18 3
1 6 3	5 – 5	9 –	6 3	– 15 10	8 7 11	2 6 2	– 14 9	43 16 1
1 1 5	5 – 5	9 –	6 3	– 18 4	6 19 10	2 1 9	– 2 5	41 – 10
1 4 1	5 – 5	9 –	6 3	– 17 3	7 16 5	2 9 –	– 2 2	43 6 7
1 2 3	5 – 5	9 –	7 –	– 17 –	8 15 11	1 18 5	– 12 4	38 19 8
1 2 4	5 – 5	9 –	9 10	– 18 2	8 1 5	1 19 8	1 5 3	40 2 9
– 17 5	5 – 5	9 –	9 5	– 15 –	7 15 1	2 2 9	– 9 2	33 16 9
– 16 1	4 19 3	9 –	7 11	– 14 10	8 4 6	1 18 7	1 4 8	38 8 3

B.—*Expenditure brought forward, Deductions and Additions determining the Charge on Alterations in the Charge caused by the Operation of the County Grants, the Loss by Empty Properties, &c.; Reduced to Percentages of Rateable Value.*

Parishes.	21	22	23	24	25
	Total Expenditure (brought forward from Part 1).	Deductions and Additions determining the Charge on Rates and Taxes. Receipts in aid of Expenditure (deducted from Col. 21). Repayment for Services, and Costs Recovered.	Deductions and Additions determining the Charge on Rates and Taxes. Receipts in aid of Expenditure (deducted from Col. 21). Fees, Fines, Penalties, Rents, and other sources of Income.	Deductions and Additions determining the Charge on Rates and Taxes. Cash Balances Increased (+) or Decreased (−) (added to, or deducted from, Col. 21.)	Resulting Charge on Rates and Taxes.
Central London, North.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1. City of London	41 16 7	2 3 6	11 10 1	− − 4 2	27 18 10
2. Aldgate	45 2 2	1 15 10	− 18 4	+ 1 18 3	44 6 3
3. Whitechapel	46 7 1	2 2 3	− 12 11	+ 2 6 10	45 18 9
4. Mile End New Town	45 19 9	1 15 10	− 10 5	+ 2 1 8	45 15 2
5. Christchurch, Spitalfields	45 2 5	1 16 3	− 11 1	+ 1 9 −	44 4 1
6. Old Artillery Ground	45 16 7	1 15 10	− 9 8	—	43 11 1
7. Norton Folgate	45 16 11	1 15 10	− 13 6	+ 1 12 4	44 19 11
8. Shoreditch	38 12 5	1 8 6	− 14 3	+ − 5 11	36 15 7
9. St. Luke	43 10 4	2 15 −	1 − 3	− − 13 1	39 2 −
10. Clerkenwell	42 9 10	1 19 11	− 14 7	+ − 3 −	39 18 4
11. Charterhouse	35 16 −	1 5 2	− 9 5	− 2 10 8	31 10 9
12. Furnival's Inn	33 9 −	1 5 2	− 9 5	+ 1 4 3	32 18 8
13. Staple Inn	33 19 11	1 5 2	− 9 5	+ − 17 11	33 3 3
14. St. Sepulchre	40 7 5	1 11 8	− 19 5	− 1 3 7	36 12 9
15. Saffron Hill	39 18 5	1 11 8	− 19 5	− − 4 1	37 3 3
16. St. Andrew and St. George	39 8 6	2 1 4	1 2 5	− − 5 8	35 19 1
17. Glasshouse Yard	29 14 4	1 3 6	1 − 9	+ 2 14 3	30 4 4
18. Gray's Inn	31 7 −	1 5 −	− 9 5	+ − 16 4	30 8 11
19. Lincoln's Inn	23 6 4	− 16 1	− 8 4	+ − 3 10	22 5 9
20. Inner Temple	19 5 3	− 9 8	1 1 4	− − 5 4	17 8 11
21. Middle Temple	19 5 3	− 9 8	1 1 4	− − 5 3	17 9 −
22. St. Giles and St. George	40 14 −	2 18 6	− 10 5	+ − 4 −	37 9 1
23. St. Martin	33 4 1	1 15 4	− 19 2	+ − 16 6	31 6 1
24. Rolls	33 17 7	1 10 −	− 14 6	+ 3 7 5	35 − 6
25. St. Clement Danes	33 15 6	1 10 −	− 17 −	+ − 16 −	32 4 6
26. St. Mary-le-Strand	34 9 5	1 10 −	− 14 6	+ 1 5 −	33 9 11
27. Savoy	33 9 4	1 10 −	− 14 6	+ 4 11 6	35 16 4
28. St. Paul, Covent Garden	35 15 8	1 10 −	1 2 7	+ 2 5 11	35 9 −
29. St. Anne, Soho	32 1 11	1 7 2	− 15 1	+ − 16 −	30 15 8
30. St. James	27 12 10	1 16 10	− 14 7	− − 4 8	24 16 9

Rates and Taxes, and the Resulting Charge on Rates and Taxes after taking account of Equalisation Fund and the Common Poor Fund, and by the Amount Charged in respect of

26	27	28	29	30	31	32	33
Alterations in the Charge on Rates and Taxes determining the ultimate Charge on the Parish.					Distribution of the Charge finally met by Rates and Taxes.		
Amount of Charge transferred from Local Funds to County Equalisation Funds.	Charge contributed to County Equalisation Funds to meet the Charges transferred thereto.	Amount of Charge upon the Parish after allowing for the operation of the Equalisation Funds.	Amount Collected in Rates to meet Loss on empty Properties, and Allowances by way of compounding, and by Rates excused and irrecoverable.	Charge finally met by Rates and Taxes.	Taxes applied to the Relief of Rates.		Rates actually Levied in the Parish.
					Indirect Taxation by Local Authorities.	Share of Taxes appropriated from Imperial Funds.	
£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1 10 9	7 10 10	33 18 11	– 11 3	34 10 2	3 12 3	3 7 11	27 10 –
12 6 10	7 10 10	39 10 3	2 5 6	41 15 9	– 6 5	5 9 11	35 19 5
13 – –	7 10 10	40 9 7	– 13 11	41 3 6	– 13 7	5 9 11	35 – –
14 4 9	7 10 10	39 1 3	1 6 9	40 8 –	– 6 5	5 9 11	34 11 8
13 9 10	7 10 10	38 5 1	2 19 7	41 4 8	– 6 5	5 9 11	35 8 4
13 14 1	7 10 10	37 7 10	2 3 6	39 11 4	– 6 5	5 9 11	33 15 –
12 18 –	7 10 10	39 12 9	– 11 1	40 3 10	– 6 5	5 9 11	34 7 6
11 6 7	7 10 10	32 19 10	2 8 2	35 8 –	– 6 5	5 9 11	29 11 8
10 19 4	7 10 10	35 13 6	1 16 2	37 9 8	– 6 5	5 9 11	31 13 4
11 16 7	7 10 10	35 12 7	1 – 10	36 13 5	– 6 10	5 9 11	30 16 8
8 14 7	7 10 10	30 7 –	2 11 –	32 18 –	– 6 5	5 9 11	27 1 8
8 15 7	7 10 10	31 13 11	....	31 13 11	– 6 5	5 9 11	25 17 7
8 10 4	7 10 10	32 3 9	....	32 3 9	– 6 5	5 9 11	26 7 5
9 3 5	7 10 10	35 – 2	2 5 4	37 5 6	– 6 5	5 9 11	31 9 2
9 8 5	7 10 10	35 5 8	2 12 4	37 18 –	– 6 5	5 9 11	33 1 8
10 14 4	7 10 10	32 15 7	1 7 5	34 3 –	– 6 5	5 9 11	28 6 8
3 3 9	7 10 10	34 11 5	1 13 3	36 4 8	– 6 5	5 9 11	30 8 4
9 1 8	7 10 7	28 17 10	....	28 17 10	– 6 5	5 9 11	23 1 6
– 2 1	7 10 7	29 14 3	....	29 14 3	– 6 5	5 9 11	23 17 11
1 8 6	7 10 7	23 11 –	....	23 11 –	– 4 1	3 7 11	19 19 –
1 9 7	7 10 7	23 10 –	....	23 10 –	– 4 1	3 7 11	19 18 –
7 17 –	7 10 10	37 2 11	2 – 11	39 3 10	– 7 3	5 9 11	33 6 8
4 – 4	7 10 10	34 16 7	1 – –	35 16 7	– 6 8	5 9 11	30 – –
3 16 6	7 10 10	38 14 10	– 8 2	39 3 –	– 6 5	5 9 11	33 6 8
4 5 11	7 10 10	35 9 5	– 6 11	35 16 4	– 6 5	5 9 11	30 – –
4 5 3	7 10 10	36 15 6	– – 17 6	35 18 –	– 6 5	5 9 11	30 1 8
3 15 1	7 10 10	39 12 1	– – – 9	39 11 4	– 6 5	5 9 11	33 15 –
4 1 2	7 10 10	38 18 8	– 4 4	39 3 –	– 6 5	5 9 11	33 6 8
4 5 11	7 10 10	34 – 7	1 7 5	35 8 –	– 6 5	5 9 11	29 11 8
3 3 6	7 10 10	29 4 1	– 7 4	29 11 5	– 6 6	5 9 11	23 15 –

B. *Contd.—Expenditure brought forward, &c.,*

Parishes.	21	22	23	24	25
	Total Expenditure (brought forward from Part 1).	Deductions and Additions determining the Charge on Rates and Taxes.			Resulting Charge on Rates and Taxes.
		Receipts in aid of Expenditure (deducted from Col. 21).		Cash Balances Increased (+) or Decreased (−) (added to, or deducted from, Col. 21).	
		Repayment for Services, and Costs Recovered.	Fees, Fines, Penalties, Rents, and other sources of Income.		
Central London, South.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
31. Newington	46 4 1	2 15 3	2 7 7	+ 1 16 1	42 17 4
32. St. George-the-Martyr	45 12 7	2 2 6	− 18 2	+ 1 6 −	43 17 11
33. Christchurch, Southwark	41 − 1	1 9 11	− 14 7	+ 1 2 3	39 17 10
34. St. Saviour	46 6 4	2 12 4	3 6 5	+ 1 10 9	41 18 4
35. St. Thomas	40 9 9	2 − 10	− 10 2	+ − 18 10	38 17 7
36. St. Olave	40 16 4	2 − 10	− 15 11	+ − 12 9	38 12 4
37. Horselydown	40 6 6	2 − 10	− 15 5	+ 3 15 10	41 6 1
38. Bermondsey	43 12 1	2 1 9	− 18 11	+ 3 7 4	43 18 9
39. Rotherhithe	46 17 7	2 8 7	− 17 10	+ 4 17 −	48 8 2
East London.					
40. St. George-in-the-East	53 5 −	2 8 10	− 10 7	+ 1 13 5	51 19 −
41. Wapping	43 15 1	1 10 4	− 15 11	− − 4 6	41 4 4
42. Shadwell	45 18 6	1 10 4	− 10 10	+ 2 8 2	46 5 6
43. Ratcliff	43 6 1	1 10 9	− 18 9	+ − 2 8	40 19 3
44. Limehouse	43 18 10	1 10 4	− 16 6	+ 1 7 7	42 19 7
45. Poplar	49 4 3	2 1 5	− 12 2	+ − 9 −	46 19 8
46. Bromley	49 9 1	1 9 1	− 12 6	+ − 2 2	47 9 8
47. Bow	52 1 11	3 1 −	− 11 3	+ − − 2	48 9 10
48. Mile End Old Town	49 13 10	1 13 1	− 9 8	− 1 17 7	45 13 6
49. Bethnal Green	51 17 7	1 11 8	− 12 3	+ − 1 1	49 14 9
North London.					
50. Hackney	39 19 8	1 − 10	− 9 2	− − 4 11	38 4 9
51. Stoke Newington	38 18 −	− 19 11	− 10 6	+ − 3 −	37 10 7
52. Islington	35 4 7	1 13 10	− 10 7	+ − 15 4	33 15 6
53. St. Pancras	41 1 4	3 1 10	− 11 1	+ 1 10 6	38 18 11
54. Hampstead	34 6 10	2 8 2	− 10 11	+ − 19 5	32 7 2
55. St. Marylebone	34 1 2	1 7 10	− 9 4	+ − 14 −	32 18 −
West London.					
56. Paddington	30 19 −	1 15 10	− 10 11	+ 1 4 2	29 16 5
57. St. George, Hanover Sqr.	29 12 9	1 7 6	− 13 4	− − 17 5	26 14 6
58. St. Margaret and St. John	30 15 5	1 13 8	− 10 8	+ 1 11 7	30 2 8
59. St. Peter, Westminster	30 11 6	− 16 4	− 8 4	+ − 3 6	29 10 4
60. Chelsea	37 12 3	1 18 3	− 11 11	− − 2 3	34 19 10
61. Kensington	31 15 11	1 3 11	− 10 10	+ 1 1 9	31 2 11
62. Hammersmith	38 6 3	1 15 10	− 9 2	+ − 5 9	36 7 −
63. Fulham	40 17 9	1 16 5	− 12 −	+ − 11 11	39 1 3

Reduced to Percentages of Rateable Value.

26	27	28	29	30	31	32	33
Alterations in the Charge on Rates and Taxes determining the ultimate Charge on the Parish.					Distribution of the Charge finally met by Rates and Taxes.		
Amount of Charge transferred from Local Funds to County Equalisation Funds.	Charge contributed to County Equalisation Funds to meet the Charges transferred thereto.	Amount of Charge upon the Parish after allowing for the operation of the Equalisation Funds.	Amount Collected in Rates to meet Loss on empty Properties, and Allowances by way of compounding, and by Rates excused and irrecoverable.	Charge finally met by Rates and Taxes.	Taxes applied to the Relief of Rates.		Rates actually Levied in the Parish.
					Indirect Taxation by Local Authorities.	Share of Taxes appropriated from Imperial Funds.	
£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
14 – 2	7 10 10	36 8 –	2 15 –	39 3 –	– 6 5	5 9 11	33 6 8
13 7 4	7 10 10	38 1 5	3 11 7	41 13 –	– 6 5	5 9 11	35 16 8
11 6 7	7 10 10	36 2 1	2 2 2	38 4 3	– 6 5	5 9 11	32 7 11
10 4 7	7 10 10	39 4 7	– 18 8	40 3 3	3 16 8	5 9 11	30 16 8
8 7 1	7 10 10	38 1 4	– 13 4	38 14 8	– 6 5	5 9 11	32 18 4
7 15 11	7 10 10	38 7 3	– 19 11	39 7 2	– 6 5	5 9 11	33 10 10
9 12 2	7 10 10	39 4 9	2 8 3	41 13 –	– 6 5	5 9 11	35 16 8
11 5 8	7 10 10	40 3 11	3 6 7	43 10 6	– 6 5	5 9 11	37 14 2
10 19 1	7 10 10	44 19 11	2 18 1	47 18 –	– 6 5	5 9 11	42 1 8
24 – 11	7 10 10	35 8 11	2 9 1	37 18 –	– 6 5	5 9 11	32 1 8
13 6 5	7 10 10	35 8 9	– 15 11	36 4 8	– 6 5	5 9 11	30 8 4
14 4 9	7 10 10	39 11 7	3 14 9	43 6 4	– 6 5	5 9 11	37 10 –
14 9 10	7 10 10	34 – 3	– 19 5	34 19 8	– 6 5	5 9 11	29 3 4
14 13 3	7 10 10	35 17 2	4 2 6	39 19 8	– 6 5	5 9 11	34 3 4
13 8 –	7 10 10	41 2 6	4 1 4	45 3 10	– 6 5	5 9 11	39 7 6
14 14 7	7 10 10	40 5 11	6 7 2	46 13 1	– 6 6	5 9 11	40 16 8
14 9 8	7 10 10	41 11 –	5 2 –	46 13 –	– 6 5	5 9 11	40 16 8
16 8 9	7 10 10	36 15 7	1 10 9	38 6 4	– 6 5	5 9 11	32 10 –
19 18 3	7 10 10	37 7 4	4 11 11	41 19 3	– 6 5	5 9 11	36 2 11
9 18 11	7 10 10	35 16 8	2 1 4	37 18 –	– 6 5	5 9 11	32 1 8
9 3 4	7 10 10	35 18 1	– 6 7	36 4 8	– 6 5	5 9 11	30 8 4
8 1 2	7 10 10	33 5 2	– 16 8	34 1 10	– 9 5	5 9 11	28 2 6
9 16 4	7 10 10	36 13 5	1 9 8	38 3 1	– 11 6	5 9 11	32 1 8
3 19 10	7 10 10	35 18 2	– 13 11	36 12 1	– 13 10	5 9 11	30 8 4
7 3 11	7 10 10	33 4 11	1 12 8	34 17 7	– 8 6	5 9 11	28 19 2
4 8 8	7 10 10	32 18 7	2 5 4	35 3 11	– 10 8	5 9 11	29 3 4
3 6 –	7 10 10	30 19 4	1 3 7	32 2 11	– 8 –	5 9 11	26 5 –
3 17 7	7 10 10	33 15 11	– – 5 5	33 10 6	– 6 5	5 9 11	27 14 2
3 14 1	7 10 10	33 7 1	– – – 9	33 6 4	– 6 5	5 9 11	27 10 –
8 11 4	7 10 10	33 19 4	1 12 10	35 12 2	– 6 5	5 9 11	29 15 10
4 14 8	7 10 10	33 19 1	2 10 9	36 9 10	– 7 5	5 9 11	30 12 6
8 – 10	7 10 10	35 17 –	2 14 –	38 11 –	– 11 1	5 9 11	32 10 –
8 13 6	7 10 10	37 18 7	2 18 5	40 17 –	– 15 5	5 9 11	34 11 8

B. *Contd.—Expenditure brought forward, &c.,*

Parishes.	21	22		23		24		25
		Deductions and Additions determining the Charge on Rates and Taxes.						
	Total Expenditure (brought forward from Part 1).	Receipts in aid of Expenditure (deducted from Col. 21).				Cash Balances Increased (+) or Decreased (−) (added to, or deducted from, Col. 21).		Resulting Charge on Rates and Taxes.
		Repayment for Services, and Costs Recovered.		Fees, Fines, Penalties, Rents, and other sources of Income.				
South-West London.	£ s. d.	£ s. d.		£ s. d.		£ s. d.		£ s. d.
64. Putney	39 1 7	1 7 4		1 − 1		+ − 15 10		37 10 −
65. Wandsworth	38 15 5	1 7 2		1 6 7		+ 2 11 3		38 12 11
66. Tooting	38 15 6	1 9 11		1 4 5		+ − 1 7		36 2 9
67. Streatham	39 5 −	1 5 11		2 13 5		− − 11 3		34 14 5
68. Clapham	38 5 10	1 3 1		1 9 3		+ − 9 11		36 3 5
69. Battersea	38 12 9	1 19 6		− 16 −		− 1 10 9		34 6 6
South London.								
70. Lambeth	38 9 2	1 2 5		− 12 7		+ − 9 5		37 3 7
71. Camberwell	45 3 7	2 1 5		− 9 7		− 1 4 8		41 7 11
South-East London.								
72. St. Paul, Deptford	39 9 10	1 3 2		− 8 11		+ − 11 7		38 9 4
73. St. Nicholas „	37 6 9	1 1 8		− 8 8		+ − 12 9		36 9 2
74. Greenwich	41 6 5	1 10 3		− 9 2		+ 1 10 5		40 17 5
75. Woolwich	44 16 11	2 5 11		− 10 1		− − 3 8		41 17 3
76. Plumstead	46 18 3	2 4 4		− 10 8		+ − 8 7		44 11 10
77. Charlton	43 16 1	1 8 2		− 17 1		+ − 12 11		42 3 9
78. Kidbrook	41 − 10	1 15 10		− 10 6		+ − 12 −		39 6 6
79. Eltham	43 6 7	7 14 −		− 19 8		+ 3 9 8		38 2 7
80. Lee	38 19 8	1 7 2		− 17 −		+ 1 9 11		38 5 5
81. Lewisham	40 2 9	1 18 7		− 10 7		+ − 17 1		38 10 8
82. Penge	33 16 9	1 4 9		− 12 6		+ 1 15 4		33 14 10
Average for the whole county	38 8 3	1 16 2		2 − 5		+ − 9 4		35 1 −

Reduced to Percentages of Rateable Value.

26	27	28	29	30	31	32	33
Alterations in the Charge on Rates and Taxes determining the ultimate Charge on the Parish.					Distribution of the Charge finally met by Rates and Taxes.		
Amount of Charge transferred from Local Funds to County Equalisation Funds.	Charge contributed to County Equalisation Funds to meet the Charges transferred thereto.	Amount of Charge upon the Parish after allowing for the operation of the Equalisation Funds.	Amount Collected in Rates to meet Loss on empty Properties, and Allowances by way of compounding, and by Rates excused and irrecoverable.	Charge finally met by Rates and Taxes.	Taxes applied to the Relief of Rates.		Rates actually Levied in the Parish.
					Indirect Taxation by Local Authorities.	Share of Taxes appropriated from Imperial Funds.	
£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
6 13 5	7 10 10	38 7 5	2 8 11	40 16 4	– 18 11	5 9 11	34 7 6
6 16 11	7 10 10	39 6 10	1 17 11	41 4 9	– 19 –	5 9 11	34 15 10
6 17 11	7 10 10	36 15 8	4 9 –	41 4 8	– 6 5	5 9 11	35 8 4
6 14 5	7 10 10	35 10 10	1 5 10	36 16 8	– 10 1	5 9 11	30 16 8
6 16 3	7 10 10	36 18 –	3 3 2	40 1 2	– 7 11	5 9 11	34 3 4
7 15 11	7 10 10	34 1 5	1 18 9	36 – 2	– 10 3	5 9 11	30 – –
9 18 10	7 10 10	34 15 7	1 4 7	36 – 2	– 10 3	5 9 11	30 – –
11 3 3	7 10 10	37 15 6	1 13 8	39 9 2	– 12 7	5 9 11	33 6 8
11 15 10	7 10 10	34 4 4	1 12 4	35 16 8	– 15 1	5 9 11	29 11 8
11 6 2	7 10 10	32 13 10	1 9 2	34 3 –	– 6 5	5 9 11	28 6 8
12 2 2	7 10 10	36 6 1	2 5 5	38 11 6	– 11 7	5 9 11	32 10 –
10 14 10	7 10 10	38 13 3	1 9 11	40 3 2	– 18 3	5 9 11	33 15 –
13 3 8	7 10 10	38 19 –	– 10 –	39 9 –	– 12 5	5 9 11	33 6 8
9 18 4	7 10 10	39 16 3	1 19 4	41 15 7	1 5 8	5 9 11	35 – –
9 15 4	7 10 10	37 2 –	2 17 8	39 19 8	– 6 5	5 9 11	34 3 4
6 10 1	7 10 10	39 3 4	2 1 4	41 4 8	– 6 5	5 9 11	35 8 4
6 8 1	7 10 10	39 8 2	4 15 6	44 3 8	– 15 5	5 9 11	37 18 4
6 13 5	7 10 10	39 8 1	1 12 3	41 – 4	– 10 5	5 9 11	35 – –
3 19 4	4 1 6	33 17 –	1 19 4	35 16 4	– 6 5	5 9 11	30 – –
7 10 5	7 10 5	35 1 –	2 1 4	37 2 4	– 17 5	5 4 9	31 – 2

Discussion *on* Mr. Gomme's Paper.

The Chairman (Mr. A. E. Bateman, C.M.G.) said they were all much indebted to Mr. Gomme for his valuable and comprehensive paper. He was sure everyone would agree with him that the paper was full of valuable statistics, and that it would be read with interest by those who had not been able to attend the meeting. It was the first paper that had been read at the Society dealing with the financial aspect of this great county of London, to which most of those present belonged, and he hoped it would not be the last paper that Mr. Gomme would favour them with. He (the Chairman) was not an expert on the subject, but he was sure there were several present who could contribute to the discussion of the controversial points dealt with in the paper.

Mr. C. S. Loch said the paper contained a fund of information which was inaccessible elsewhere. The question that interested him was the problem of differentiation. By that he understood Mr. Gomme to mean all those causes which brought about a variation of the rate as between district and district. Differentiation was of two kinds. In one class of cases it was produced by the intervention of statutes in consequence of which the proceeds of Exchequer grants were received by the various local authorities, or some kind of equalisation, such as that promoted by the Metropolitan Common Poor Fund, was set on foot. Secondly, it was produced by actual differences in local administration. Differentiation of the first kind was adopted in order to introduce modifications in the incidence of the rate on the localities. It was supported on grounds of equity, or in order to put a bonus on a course of action which appeared to be of general advantage to the community, and which unaided the locality would be inclined to shirk. For instance, when the central government desired that medical officers should be appointed throughout the country, they placed a bonus on such appointments. Such a system would continue for a long period. Its purpose would be served; and then it would tend to become an anomaly. This was now the position of some Exchequer grants that may have been just and reasonable when first initiated.

As to the second kind of differentiation, that due to actual differences in local administration, he was not sure that Mr. Gomme had separated it from the other with sufficient clearness in his classification. Yet it was generically different. The one was imposed on the community with a view to the promotion of a better or a more equitable administration. The other was due to management. Being interested in matters connected with poor-relief, he had referred to the table on p. 490, where out-door relief was entered in a special service account. This seemed to take it out of the

category of ordinary administration. Nevertheless, out-door relief was really part and parcel of the administration of poor relief, and could hardly be dissociated from all other branches of the work of poor law guardians. Accordingly he could not think it right to classify it with "open spaces" and "baths and washhouses." If it was to be fairly dealt with, it should be dealt with as a normal administrative charge, increased or reduced according to the ability or carefulness of the local administration. But from Table A, pp. 500—504, it seemed that "out relief" in the table on p. 490 included really more than "out relief." For in Col. 3 of Table A the heading was, "Out-door Relief (including Casual Wards, Houseless Poor, and Dispensary)." Was it not a pity, he asked, to bring these various items together?

To most people it would seem that the casual ward, and even the poor law dispensary served a different purpose from ordinary out-door relief. In St. George-in-the-East, according to the tables, the percentage on rateable value under this heading was 2*l.* 1*s.* 10*d.*, which as a normal charge for out-door relief in that union seemed to him, compared with the similar charge incurred by other unions, very large. In St. George-in-the-East the out-door relief test was a very small one. Possibly the largeness of the percentage was due to some special charges being incurred by the guardians in the year in question; that might account for the excess.

The rateable value of St. George-in-the-East in 1894 was 193,878*l.*, and in 1895-96 the cost of out-door relief was returned by the Local Government Board at 330*l.*, which would give a much smaller percentage on rateable value than that set down in the table. Medicines were charged to the Metropolitan Common Poor Fund. So were the salaries and rations of dispensary officers. Normal out-door relief was not so charged. Was it not a pity to classify in one column items chargeable to the Metropolitan Common Poor Fund and items not so chargeable? Thus, the differentiation due to administration as against that due to equalisation was, apparently, not discriminated. He suggested that the net result of a consideration of these figures might be said to be: firstly, in regard to the Exchequer grants, that they should localise certain expenditure entirely, and thus get rid of the grants from the Exchequer in aid of local rates. Secondly, in regard to the relations between the county authority and the local or district authority, that the whole weight of responsibility as to expenditure, in regard to certain definite charges and definite administration, should fall upon the county authority, while the whole weight of responsibility in regard to all other local charges and as to local administration should fall upon the local or district area. The end they had in view was, it seemed, to draw out from the local community the greatest interest in local administration and the strongest sense of local responsibility. That the representatives of the local community had to pay bills and consider ways and means was of course one of the chief means of education in municipal work, as it was relatively in domestic arrangements. He would ask Mr. Gomme whether or not the system of common poor fund could not be superseded by some other system, which possibly

might not give to poorer districts the same advantages or disadvantages with regard to particular charges, but which would so allocate responsibility that local charges would be met locally, altogether without regard to doses of relief from any higher authority. The intricacies of the present system seemed infinite, and, in a great degree, unnecessary. He hoped that the statement that they had heard that evening would help towards the clearance of complexities and difficulties. If local government was to be in the best sense popular, it was essential that the methods of local taxation should be simple. The paper was a good plea for simplicity, but simplicity might require some such adjustment of charges as between the larger county authority and the local authority as he had suggested.

Mr. Noel Humphreys, while thoroughly agreeing that the registration county was a statistical monstrosity, ventured to suggest that Mr. Gomme should have spoken of the poor law union county rather than of the registration county. Unfortunately with regard to registration statistics the Registrar-General had been hampered for sixty years by the provisions of the Registration Act. He had been forced by these provisions to retain the poor law unions as the statistical unit, and the poor law county, which was an aggregation of unions, was the result of poor law administration—it was only an accident of registration, and therefore he suggested that the lecturer should have complained of the poor law county rather than of the registration county.

Mr. E. Cannan said he could not profess to understand London local taxation, which was much more complicated even than that of the country. But both in London and the country the whole system was based on the principle of one authority receiving money and paying it away to other authorities, till the taxpayer could not tell in the least who had spent it. With regard to the distribution of the Exchequer grant between London and the country, he noticed that Mr. Gomme attacked that on the ground that it was not quite fair according to the principle adopted; but the principle adopted was so hopelessly absurd that really it did not very much matter: at least Mr. Gomme could not expect anyone to feel it very keenly if London got a very small fraction less than it should properly receive on that basis. The distribution should be attacked on wider grounds. At present it was a sort of inverted land-tax. Just as the land tax was collected in proportions from the various districts regardless of all changes since the original settlement, so was the estate duty grant distributed. It was an extraordinary thing that just when Chancellors of the Exchequer were trying to get rid of the remains of the land-tax, they should be basing a system of distribution on the same principle, and thus preparing infinite embarrassment for their successors.

Mr. R. Price-Williams said that the statistics showed the

most startling inequalities. He had the consolation of thinking that although the paper had been very inadequately discussed, it would, through the medium of the press, receive the consideration which it deserved, and the unfair treatment which London suffered would be publicly brought forward, and he thought the time had come when glaring anomalies of the incidence of taxation would have to be remedied. He could only express his great regret that an opportunity could not have been afforded to have had the valuable paper beforehand, so that they could have studied it, and fairly fastened upon the main points which had been so forcibly brought forward.

Sir JULAND DANVERS called attention to the system of assessment that prevailed in different parishes as being unfair and irregular. It not unfrequently happened that two houses in the same street, of equal value, were assessed at different rates. There were also cases where houses had been similarly assessed, and where the owner of one appealed but the other did not. The one who appealed might get a reduction of the rate, while the other would go on for some three or four years paying the higher amount. He asked whether some more systematic system could not be adopted which would avoid the injustice and irregularities that so often occurred from the present course of procedure.

Mr. J. A. BAINES, C.S.I., said that perhaps the last question was one for a vestryman like himself to deal with elsewhere rather than for a statistical expert. The subject dealt with in the paper had already been before the London County Council for some time, and he had no doubt that it would continue to be considered there in the future. Much of the statistical matter in the paper had, as mentioned by Mr. Gomme, been presented to the Royal Commission upon Local Taxation, and Mr. Gomme had been specially complimented by Lord Balfour of Burleigh for the excellent way in which he had marshalled his figures. There were two main questions here raised: one was the injustice to London under the present system of local taxation grants, and the other was the distribution of local burdens between local and imperial taxation. The latter point had naturally been dealt with in less detail than the former. He hoped the paper would be made use of not merely by the Statistical Society, but that it would be distributed to municipal and county officers throughout the country, in order that further criticisms might be obtained from different points of view. He might perhaps say that before the facts dealt with by Mr. Gomme had been brought before the County Council and Royal Commission, Londoners were not aware how badly they were being treated. At the same time he did not consider that the case was quite as black as it appeared upon paper. There were several items to be put *per contra*. He agreed that the present system of Exchequer grants was one that required revision; it was irrational and unfair, and was not profitable to many of the areas that were subject to it. He also agreed with Mr. Gomme as to the present diversity in form of demand notes in London. It was but right

that ratepayers should be able to compare what they had to pay in different parishes, but this could not be ascertained under the system now prevailing. He instanced the demand note to which Sir Juland Danvers and he himself were subjected, as being of a peculiarly voluminous nature, but beyond the intelligence of the average prospective occupier of 20*l.* houses. As to the basis on which local taxation grants should be apportioned, no one basis could, in his opinion, be adopted. Population must in some cases be taken into account, with rateable value, rated buildings, &c., and local expenditure, and the ratios be compounded to get the "figure of merit" for each unit. The Commission now sitting would have to give some opinion upon this subject. The whole difficulty with regard to London rested upon this, that in the legislation of 1888 it was treated as a county, when in fact it was not a county or a county borough, but an aggregate of peculiar urban circumstances, complicated by the question of the City. The time honoured customs which prevailed in the City might no doubt be ultimately brought into line with the conditions of the rest of London. He thought that the financial relations between the two could very well be settled, as there was a provision in the Act of 1888 under which conferences on that subject could be held between the City and the London County Council. Such an agreement was very important in connection with the police charges. In conclusion, he proposed a hearty vote of thanks to Mr. Gomme for his comprehensive and interesting paper.

Mr. Gomme, in reply, expressed his pleasure at being present that evening to read the paper before the Society. With regard to the statement just made, to the effect that London was not a county, he might point out that an Act of Parliament said that it was, and gave it the county organisation. There was nothing mysterious in this; it was only a case of development. The subjects discussed were very important, but they might be summed up in almost a sentence. He thought Mr. Loch had put the case very clearly indeed, namely, that it was a fight now as to whether administrative bodies should have control of their taxation, or should be allowed to dip into other people's taxation. The suggestion of another speaker, that the common poor fund should be superseded by another system which would obviate the iniquities of the present dose system, went really to the root of the whole question. Administrative bodies should be responsible to their constituencies for the taxation which was caused by their administration. But there were some local services which were so far nationalised that they might be with safety transferred to the national government to be paid for out of the national taxes. On the other hand there were some which could be properly transferred from local to county administration and taxation. As an example of the latter he might refer to lunacy, which had become a county charge, but by the most cumbersome machinery imaginable. Upon the whole, he thought Mr. Loch had laid stress upon the important lesson which might be learnt from the paper. He quite agreed with Mr. Humphreys that he should have said "poor

law county;" but it was one of those pieces of stupidity of modern legislation that registration should have been placed in the hands of poor law authorities; really it had nothing to do with poor law. Poor law authorities at that time were the most prominent of local authorities, and accordingly they were entrusted with the administration. If things were properly adjusted a great deal of expense could be got rid of with the greatest ease. Mr. Cannan had objected to his criticism of the London case against the system of allocating Parliamentary grants, because the principle was so bad that any small damage to any particular locality was not of very great importance; but he happened to be dealing with London taxation, and therefore thought a small matter was well worthy of being brought before that Society. One of his points about the present system was that if it were a rough and ready method of doing justice, and if practically justice were done, you might shrug your shoulders and say that although it was a stupid way of doing justice, still justice was done. But he contended that it did not effect the desired end, and therefore he thought the detailed criticism was of some importance. With regard to the suggestion that a new basis was required which should take into consideration the question of rateable value, population, and expenditure, he did not think that any system of doling from the central authority to a local authority was a good one. In fact he thought it was vicious and bad in the extreme, and any basis by which an artificial area-grouping of a tax collected nationally seemed to be one of those kind of things which could only be defended by proof that the use of a rough and ready method attained a good result. That it did not do, as it relieved owners of property of their due share of taxation. This was sought to be adjusted by alterations in the system of imperial taxation. The only possible way of dealing with the subject was to let local taxation pay for local purposes, and for that purpose transfer to local purposes such taxation now included in imperial taxation as really was local, and transfer to imperial administration and taxation such services as had outgrown their local character and had become national.

Deaths *in* Child-Birth in New South Wales.

By T. A. Coghlan.

[Read before the Royal Statistical Society, 21st June, 1898.
C. S. Loch, Esq., Vice-President, in the Chair.]

The data on which the following investigation is founded are the deaths registered in New South Wales during the four years 1893-96, and the births during the same period, but in regard to one investigation, that is the deaths at each confinement, the information available covers only three years, 1894-96, during which there were 115,669 confinements, and 813 deaths due to child-birth. Taking the three years together, the following table affords a comparison of the deaths in child-birth with the births, the confinements being distinguished into first, second, &c., up to twenty-third. There were 105,749 confinements of married women, and 9,920 of unmarried, but the following table relates to married women only, as the registrations do not afford particulars of previous confinements of the unmarried:—

Table I.

Confinements.	Births.	Deaths in Child-birth.
1	20,145	175
2	17,203	79
3	14,908	85
4	12,319	61
5	10,396	67
6	8,553	56
7	6,808	43
8	5,302	40
9	3,805	40
10	2,583	21
11	1,727	16
12	978	21
13	534	7
14	261	1
15	123	1
16	56	—
17	32	—
18	8	1
19	5	—
20	1	—
21	—	—
22	—	—
23	2	—
	105,749	714

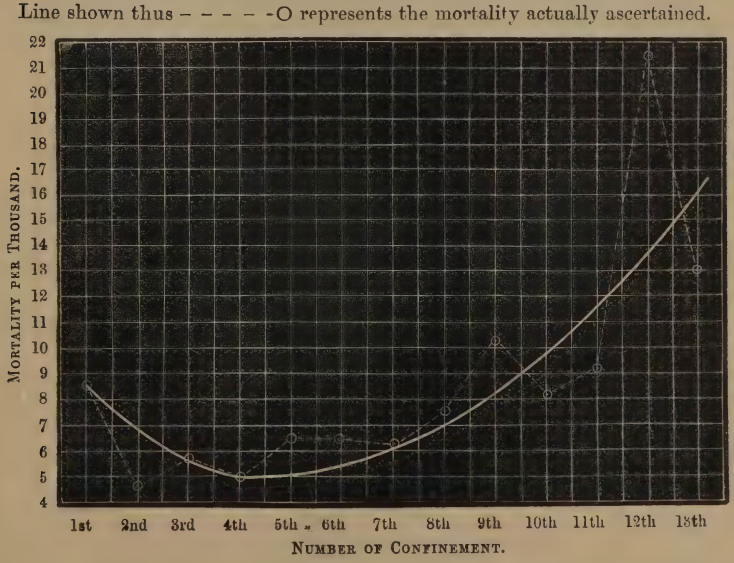
The figures beyond the twelfth or thirteenth confinement have no value for comparative purposes, and are omitted in the subjoined statement, showing the probability of death at each confinement. The adjusted figures (Col. 3) are those from which the diagram A has been drawn.

TABLE II.

1 Confinement.	2 Probability of Death during Confinement. First Approximation.	3 Probability of Death during Confinement. Adjusted Figures.
1	0·008687	0·0087
2	0·004592	0·0066
3	0·005702	0·0055
4	0·004952	0·0052
5	0·006445	0·0052
6	0·006547	0·0057
7	0·006316	0·0064
8	0·007544	0·0074
9	0·010512	0·0084
10	0·008130	0·0097
11	0·009265	0·0118
12	0·021472	0·0142
13	0·013109	0·0168

A.—*Risk at each Confinement, Married.*

Line shown thus – – – – -O represents the mortality actually ascertained.



The risk attending the first birth is greater than that at any subsequent one up to the ninth; the minimum risk would appear to be

at the fourth, but the increase in the risk at subsequent confinements may be due to the increased age of the mother, and not to a loss of vitality or other cause arising out of previous confinements. The question of the influence of age will be further discussed in another place.

First Confinements.

The great bulk of first confinements occur among women of ages from 20 to 24 years, but they are also numerous amongst the age groups including the three years preceding and following that period. The returns admit of a distinction being made in the ages of women who became mothers for the first time.

The following figures relate to married women only:—

TABLE III.

Age of Mother.	Number of First Confinements at each Age.	Deaths in Confinement.	Age of Mother.	Number of First Confinements at each Age.	Deaths in Confinement.
15	24	—	32	441	6
16	143	—	33	339	9
17	576	4	34	275	3
18	1,244	11	35	219	5
19	1,965	19	36	187	1
20	2,218	8	37	119	1
21	2,820	17	38	102	2
22	2,957	22	39	93	1
23	2,751	23	40	57	1
24	2,344	13	41	24	1
25	2,005	14	42	39	—
26	1,718	14	43	13	2
27	1,340	12	44	11	1
28	1,162	13	45	10	—
29	831	13			
30	766	13		27,295	233
31	502	4			

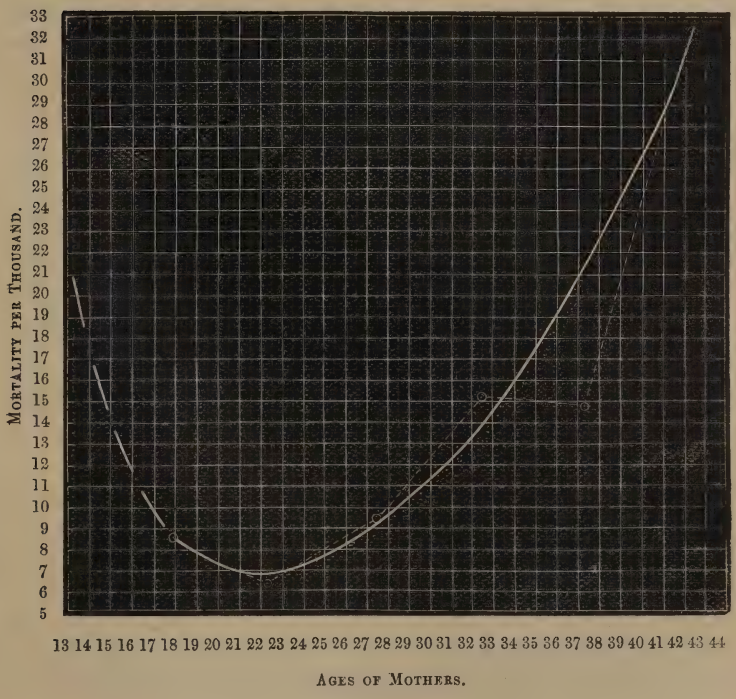
Grouping these figures in quinquennial periods the following are the results:—

Age Group.	Number of First Confinements.	Deaths in First Confinement.
15 and under 20	3,952	34
20 ,, 25	13,090	83
25 ,, 30	7,056	66
30 ,, 35	2,323	35
35 ,, 40	720	10
40 ,, 45	154	5
	27,295	233

The probability of death at each age is established from the foregoing table, and is shown on Diagram B. The confinements of married women below the age of 17 are too few to be of value for the purposes of comparison, and have not been used in the preparation of these tables.

B.—*Risk at First Confinement, Married.*

Line shown thus – – – – –O represents the average mortality in quinquennial periods as ascertained.



The dotted line on the diagram completing the segment has been established from the results obtained from the registration of deaths of unmarried women dealt with subsequently, and is approximate to the curve for the same ages shown in Diagram C.

It will be observed that the curve which is thus made complete is very symmetrical, and approximates to a parabola. The following is the probability of death at first confinement established from the foregoing data:—

TABLE IV.

Age of Mother.	Probability of Death at First Confinement		Age of Mother.	Probability of Death at First Confinement.	
	First Approximation.	Adjusted Figures.		First Approximation.	Adjusted Figures.
17	0·00694	—	30	0·011697	0·0112
18	0·00884	0·0086	31	0·00797	0·0122
19	0·00967	0·0079	32	0·01361	0·0132
17—19	— 0·00860	—	33	0·02655	0·0144
			34	0·01091	0·0156
20	0·00361	0·0074	30—34	— 0·01507	—
21	0·00603	0·0070			
22	0·00744	0·0068	35	0·02283	0·0170
23	0·00836	0·0068	36	0·00535	0·0185
24	0·00555	0·0072	37	0·00840	0·0202
20—24	— 0·00634	—	38	0·01961	0·0219
			39	0·01075	0·0238
25	0·00698	0·0076	35—39	— 0·01389	—
26	0·00815	0·0082	40	0·01754	0·0260
27	0·00896	0·0088	41	0·04167	0·0283
28	0·01119	0·0095	42	—	0·0308
29	0·01564	0·0103	43	0·15385	—
25—29	— 0·00935	—	44	0·09091	—

On reading the foregoing table with the diagram, it will be seen that the risk attendant upon a first birth is at a minimum at the 22 and 23 years, and after five years increases rather rapidly with age. The section of the curve based on the experience of unmarried women shows that the first confinement is surrounded with much risk at ages below 18.

It will be recognised that age is a great factor in the risk, but even with the increased age, the risk attending the first confinement is greater than at any subsequent one up to the ninth.

Risk at each Age.

Considering the ages apart from the number of previous confinements, the following particulars relate to both married and unmarried women, the number of each being separately shown:—

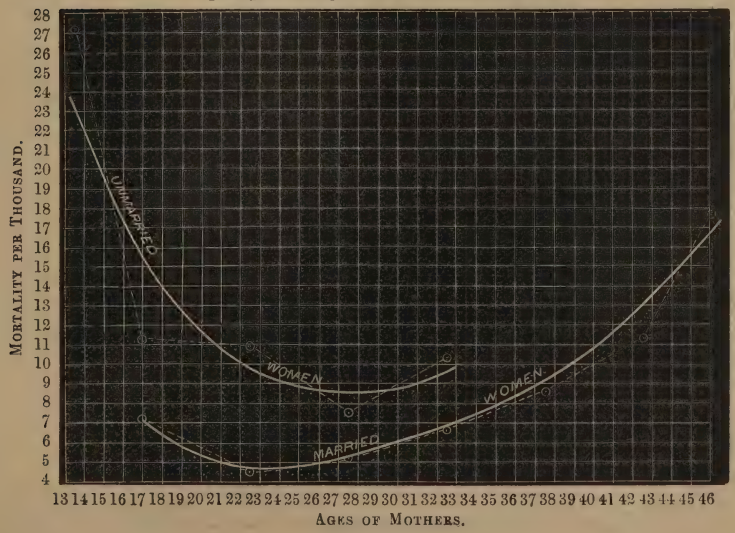
TABLE V.

Age.	Number of Confinements at each Age.		Deaths in Child-birth.	
	Married.	Unmarried.	Married.	Unmarried.
13	—	6	—	1
14	—	34	—	—
15	24	107	—	3
16	149	268	—	2
17	627	555	4	9
18	1,464	796	11	7
19	2,695	903	21	10
20	3,702	932	10	10
21	5,249	887	22	10
22	6,538	768	36	7
23	7,537	689	35	8
24	7,973	652	33	8
25	8,121	446	31	2
26	8,561	407	43	1
27	8,216	338	38	6
28	8,505	311	58	1
29	7,711	237	39	3
30 and under 35	33,983	867	229	9
35 ,, 40	22,913	528	196	1
40 ,, 45	8,305	166	94	1
45 and upwards	899	21	16	—

The probability of death for each class is shown on diagram C. The average risk for each quinquennial period being shown by a dotted line, and for each age by a full line.

C.—*Risk at Confinement.*

Line shown thus – – – – –O represents the average mortality in quinquennial periods as ascertained.



From this diagram have been established the adjusted figures set out in the accompanying table:—

TABLE VI.

Age	Probability of Death in Confinement.			
	Approximate Figures.		Adjusted Figures.	
	Married.	Unmarried.	Married.	Unmarried.
13	—	0·02500	—	0·0220
14	—		—	0·0220
15	—	0·02804	—	0·0206
16	—	0·00741	—	0·0180
17	0·00638	0·01622	0·0072	0·0160
18	0·00753	0·00879	0·0063	0·0142
19	0·00779	0·01107	0·0057	0·0128
17—19	0·00726	0·01154	—	—
20	0·00270	0·01073	0·0052	0·0116
21	0·00419	0·01127	0·0048	0·0106
22	0·00515	0·00911	0·0046	0·0100
23	0·00464	0·01161	0·0045	0·0095
24	0·00414	0·01227	0·0046	0·0092
20—24	0·00439	0·01095	—	—
25	0·00382	0·00448	0·0047	0·0088
26	0·00502	0·00245	0·0048	0·0086
27	0·00463	0·01775	0·0050	0·0086
28	0·00682	0·00322	0·0053	0·0086
29	0·00506	0·01266	0·0056	0·0087
25—29	0·00508	0·00748	—	—
30	—	—	0·0059	0·0089
31	—	—	0·0062	0·0091
32	—	—	0·0066	0·0094
33	—	—	0·0070	0·0100
34	—	—	0·0074	—
30—34	0·00674	0·01038	—	—
35	—	—	0·0078	—
36	—	—	0·0082	—
37	—	—	0·0087	—
38	—	—	0·0093	—
39	—	—	0·0100	—
35—39	0·00855	0·00189	—	—
40	—	—	0·0108	—
41	—	—	0·0116	—
42	—	—	0·0125	—
43	—	—	0·0133	—
44	—	—	0·0143	—
40—44	0·01132	0·00602	—	—
45	—	—	0·0155	—

The figures require little comment. The risk of unmarried women in child-birth is at every age greater than for the married, the disproportion in the ratios being greatest at the lower ages. The probability of death is with the married women least at about age 23, and increases both with the years over and under that age. With unmarried the minimum risk is from 25 to 30. It may be mentioned that the bulk of the confinements of unmarried women take place in public institutions, which make the treatment of child-bearing women a special feature of their work.

Probability of Surviving every Confinement.

Before the probability of a woman's surviving every confinement can be established, it will be necessary to determine the number of confinements likely to occur to women marrying at various ages. This has been done in the following table, in which Px represents the expectation of a woman at age x living one year.

Py represents the expectation of a man at age y living one year. Pxy represents the expectation of a couple living one year, the man being five years older than the woman.

The value of figures in the columns headed as above will be found in my report on the 11th Census of New South Wales (1891), pp. 150 and 151.

The probability of a married woman being confined during a year has been already established by calculation for each age. This is given in the following table under Col. 6; this probability, modified by (Pxy), the expectation of living through one year, gives the number of children born annually to each couple at the given ages (Col. 7). The final column gives the average number of children to a woman marrying at age x, and is obtained by summing Col. 7.

It may be mentioned that the New South Wales statistics do not admit of the average number of children to a woman marrying at any given age being accurately established from the published records, the period for which the records have been tabulated being too short for reliable deductions to be drawn, and even if the experience were more extended it could hardly be accepted, seeing that the population of the colony is not yet in that settled and stationary condition under which a normal experience may be expected.

TABLE VII.—*Average Number of Children to Women Marrying at any Age. Husband's Age assumed to be Five Years older than Wife's.*

1	2	3	4	5	6	7	8
Age.		P			Probability of Birth during the Year.	Children (Annually).	Total Average Number of Children to Women Marrying at Age x.
x (Female).	y (Male).	Px.	Py.	Pxy.			
20	25	0·99632	0·99428	0·99265	0·445	0·4420	7·2217
21	26	0·99613	0·99409	0·99024	0·428	0·4238	6·7797
22	27	0·99587	0·99374	0·98964	0·413	0·3987	6·3559
23	28	0·99563	0·99348	0·98914	0·398	0·3937	5·9572
24	29	0·99528	0·99322	0·98853	0·385	0·3806	5·5635
25	30	0·99495	0·99302	0·98801	0·372	0·3576	5·1829
26	31	0·99455	0·99280	0·98739	0·358	0·3425	4·8253
27	32	0·99435	0·99260	0·98699	0·346	0·3415	4·4828
28	33	0·99410	0·99227	0·98642	0·335	0·3305	4·1413
29	34	0·99391	0·99195	0·98591	0·327	0·3223	3·8108
30	35	0·99370	0·99158	0·98533	0·318	0·3133	3·4885
31	36	0·99344	0·99110	0·98460	0·311	0·3062	3·1752
32	37	0·99304	0·99068	0·98378	0·304	0·2991	2·8690
33	38	0·99255	0·99039	0·98301	0·297	0·2919	2·5699
34	39	0·99211	0·99006	0·98225	0·289	0·2839	2·2780
35	40	0·99171	0·98967	0·98147	0·279	0·2738	1·9941
36	41	0·99134	0·98927	0·98070	0·270	0·2648	1·7203
37	42	0·99110	0·98870	0·97990	0·258	0·2428	1·4555
38	43	0·99106	0·98794	0·97891	0·245	0·2401	1·2127
39	44	0·99080	0·98723	0·97815	0·228	0·2230	0·9726
40	45	0·99055	0·98662	0·97730	0·200	0·1955	0·7496
41	46	0·99037	0·98620	0·97670	0·169	0·1651	0·5541
42	47	0·99180	0·98581	0·97773	0·125	0·1222	0·3890
43	48	0·98971	0·98538	0·97524	0·095	0·0926	0·2668
44	49	0·98975	0·98482	0·97473	0·070	0·0682	0·1742
45	50	0·98967	0·98381	0·97365	0·048	0·0467	0·1060
46	51	0·98968	0·98214	0·97191	0·030	0·0292	0·0593
47	52	0·98927	0·98046	0·96994	0·017	0·0165	0·0301
48	53	0·98929	0·97896	0·96846	0·007	0·0068	0·0136
49	54	0·98874	0·97711	0·96611	0·004	0·0039	0·0068
50	55	0·98828	0·97580	0·96436	0·002	0·0019	0·0029

Having determined the number of children which may be expected to be born to women marrying at ages from 20 to 50, the probability of a woman surviving all her confinements can now be calculated.

The probability of death is given in Table II, and the probability of living through the confinement may therefore be directly established. Thus:—

Confinement.	Probability of Dying.	Probability of Living.
1	0·0087	0·9913
2	0·0066	0·9934
3	0·0055	0·9945
4	0·0052	0·9948
5	0·0052	0·9948
6	0·0057	0·9943
7	0·0064	0·9936
8	0·0074	0·9926

The average number of children born to women marrying at each age being known, the probability of a woman surviving every confinement is obtained in the following manner. Age at marriage say 30 years, then by Table VII the number of children will be 3·49, the probability of surviving the first confinement will be 0·9913, the second 0·9934, the third 0·9945, and for the fraction (0·49) there will be 0·49 of 0·0052, the risk of dying at fourth confinement, that is 0·0025; and the probability of surviving the 3·49 confinement will therefore be 1 — 0·0025 = 0·9975; the product of the probabilities 0·9913 × 0·9934 × 0·9945 × 0·9975 gives 0·9770, as the probability of a woman who marries at 30 surviving every confinement. An adjustment for age is however necessary. The average probability of surviving first confinement is 0·9913, while by Table IV the probability for age 30 alone was 0·9888 (viz., 1 — 0·0112), so that in the foregoing calculation 0·9770 becomes by proportion 0·9746. Similarly the probabilities at each age in the following table has been established:—

Table VIII.

Age at Marriage.	Probability of Surviving every Confinement.	Probability of Dying in Confinement.
20	0·9572	0·0428
21	0·9606	0·0394
22	0·9634	0·0366
23	0·9657	0·0343
24	0·9675	0·0325
25	0·9692	0·0308
26	0·9705	0·0295
27	0·9718	0·0282
28	0·9729	0·0271
29	0·9738	0·0262
30	0·9746	0·0254
31	0·9751	0·0249
32	0·9757	0·0243
33	0·9761	0·0239
34	0·9765	0·0235
35	0·9767	0·0233
36	0·9767	0·0233
37	0·9768	0·0232
38	0·9767	0·0233
39	0·9765	0·0235
40	0·9762	0·0238

The importance of age as an element of the risk at confinements will be evident from the foregoing table. It will be seen that notwithstanding that a woman marrying at age 20 has on the average 7·22 confinements to pass through, and that the average for a woman marrying at age 40 is 0·75, the risk of dying of the former

is not quite twice that of the latter. The minimum risk of dying in confinement is at age 37.

From the foregoing table it may be taken that on an average 1 woman out of 23 who marries at age 20 will die in child-birth; 1 in 32 at age 25; 1 in 39 at age 30; 1 in 43 at age 35; and 1 in 42 at age 40.

Discussion *on* Mr. T. A. Coghlan's Paper.

Mrs. Garrett Anderson, M.D., said that though she did not know much about statistics, she did know something about the subject matter of the paper. Looking at the English figures of mortality, she thought it would be a mistake for members of the Society to be much influenced by the figures in Mr. Coghlan's paper or by the deductions drawn from them. They were figures belonging to another country, and they related to a state of society very different from our own. The maternity mortality in London for the three years 1895-97 was nothing like so high as that given by Mr. Coghlan. Some years ago Dr. Matthews Duncan made an investigation into the rates of mortality in child-birth, and he thought the average rate of mortality at that time, when the patients were in good hands, was about 1 per cent.; but that was before the advent of antiseptic treatment. A mortality of 1 per cent. would now be perfectly monstrous, and that was why she thought it would be most misleading to accept these figures at the present time. Take for instance the figures in the second table. If one added up the mortality at all the different ages, an average mortality of 1 in 121 was the result. That was at the present time a terribly high mortality, and deductions drawn from it were worse than useless; they were misleading. She had recently taken the figures from eight large lying-in charities in London, and had added to them those of the Rotunda in Dublin, in order to arrive at the present maternal mortality in child-birth; and the ratio of deaths to deliveries was much more like 1 in 600 or 650. If New South Wales was so unfortunate as to have a mortality of 1 in 121, which she greatly doubted, she thought we had better send out to them some apostles of antiseptic midwifery. It was perfectly appalling to have such a mortality. The difference between the social conditions of patients in New South Wales and those under which the London poor lived could not account for such a very large difference in the mortality. There might be some great fallacy in the figures given, and in any case it would be better not to make deductions from them till the facts had been studied. The real points to be considered in this matter were the skill of the doctor and the zeal and wisdom with which he and the nurse carried out antiseptic precautions. If the attendants were

skilful and antiseptic, the patient did well. Considerations of age and all that sort of thing were of very little importance practically. She did not think therefore the paper would be of much service from the point of view of real utility, and she deprecated any inferences being drawn from it.

Mr. E. W. Brabrook, C.B., had some difficulty in discussing the paper in the author's absence. This was, he believed, the first attempt at a scientific discrimination on a large scale of the risks of child-birth during successive confinements at different ages; and, making all necessary deductions from the paper on account of its being derived from a community so different from our own, the results given in it would be valuable in comparison with similar statistics collected from our own country. He hoped that the example of the author of the paper would be followed by statisticians in this country. He would mention one or two points which had occurred to him in glancing through the paper. One was not surprised at hearing that the risk in mortality to unmarried was greater than to married women, but he was not sure that the observation in which the author accounted for it was not intended to be satirical, when he stated that "the bulk of the confinements of unmarried women take place in public institutions which make the treatment of child-bearing women a special feature of their work." He thought the treatment of patients by qualified persons on scientific principles would be a circumstance rather in favour of vitality than against it, and therefore he did not quite see the bearing of that remark. Again, he could not quite understand what the three columns in the table given on p. 526, relating to the ages of husband and wife taken together, had to do with the deaths in child-birth. If they had been given in reference to statistics of conception, they might have had some relevancy, but they could hardly be relevant with regard to child-birth, because a child might be born nearly forty weeks after the death of the husband. Those columns therefore appeared to be rather out of place. He observed an extraordinary result stated in regard to women marrying at 20, where the probable mortality was given upon a total average of 7·22 children. He thought that was so large an average as to be beyond general experience. He demurred also to the method of arriving at the results given in Table VIII. The author of the paper appeared to have fallen into an error similar to that of treating the years of expectation of life as the terms of an annuity. The author had taken the average expectation of confinements of a woman aged 30 at marriage, viz., 3·49, and had multiplied together the probability of surviving each such confinement separately, in order to get the figure representing the probability of the woman surviving every confinement, whereas he should have taken the totals for all the confinements observed, and derived his average from them in the manner common in tables of mortality, which would probably have produced a different result. These criticisms might not be well founded, being given on the spur of the moment without a previous examination of the paper. Its author, however, deserved

the members' thanks, and it was to be regretted that he was not present to receive them.

Dr. Hingston Fox agreed with the last speaker in his appreciation of the value of the paper. Although not quite the first, it was, as far as he was aware, the most important contribution yet made to the statistics of child-birth mortality. He had studied this subject lately in the course of an investigation into the value of female lives for assurance, and found the recorded statistics very scanty. The Registrar-General was able to give little help at present, but he hoped that our authorities at home would follow the lead of the colonies, in issuing birth schedules in greater detail. They should show particulars of the ages and confinements of the mother on the occasion of a birth. These would furnish important data. At present we were dependent upon the figures furnished by lying-in institutions and private observers, necessarily on a small basis.

Dr. Matthews Duncan had been referred to as an eminent authority on this subject, and in the main this paper confirmed his figures, while dealing with larger data than he was able to obtain. It would be well if we were able to make a comparison between the population in New South Wales dealt with in the paper and our own. A comparison however could be made in one particular, viz., as regarded legitimate and illegitimate births. In England and Wales the proportion of illegitimate births to total births had steadily declined from 7 per cent. in 1850 to 4·7 per cent. in 1886; in London it was about 4 per cent., and varied little. In the paper it was given as 8·6 per cent., perhaps not a larger figure than might be expected in the case of a young community, whose population had not always been recruited under favourable circumstances. The mortality per 1,000 had been alluded to by Mrs. Garrett Anderson. He observed that the mortality among married women came out as 6·7 deaths, and that among the unmarried women as 10 deaths per 1,000 births. The average mortality from child-birth in the thirty years 1861 to 1890 in England and Wales was at the rate of 4·72 per 1,000 births, or about two-thirds of that shown in the paper. The difference was thus after all not very great; probably it might be explained by the lesser opportunities of obtaining skilled help in a widely scattered community. Dr. Matthews Duncan showed that the mortality in child-birth, taking all the labours together, was at the rate of about 1 in 200, or about the figure he had quoted for England and Wales, while the mortality at first labours only was 1 in 100. He was glad to hear Mrs. Garrett Anderson's sanguine forecast for the future. But at present it was rather a forecast than anything for which they could point to evidence. Puerperal mortality in England and Wales down to the present time did not greatly differ from the average quoted for the last thirty years. It was declining more in London than in the provinces, but it was not very far from the figures already mentioned. Referring to the larger mortality in child-birth among unmarried women, he thought that it was natural that the distress of mind con-

nected with illegitimate birth should bring added danger to the life of the mother. Probably if it had not been that so many of these confinements took place in public institutions, where the mothers had very special care given to them, the mortality in the case of illegitimate births would have been much larger. Alluding to Diagram A, the Fellows would notice that Mr. Coghlan (whose general care and accuracy in dealing with these figures was worthy of admiration) had altered the numbers in a way that was, he submitted, not quite justified. It appeared from the tables that the mortality in child-birth at the first confinement was 0·0086, and at the next 0·0045, or a little more than half. Mr. Coghlan had raised the last figures to 0·0066 in order to form a curve (not always a safe proceeding), and to make the death-rate descend gradually from the first labour down to a minimum at about the fourth. But his own unadjusted figures were entirely confirmed by the statistics of Dr. Matthews Duncan, in showing that the mortality at the second labour was only about half that at the first. In fact, instead of the gradual curve shown, there was a sudden drop in the mortality after the first labour. The mortality at the first confinement was exceptionally heavy, while it was much lighter at those which immediately followed it. There was good reason why that should be so. The first confinement was the great test of a woman's health and strength and fitness for child-bearing, and it revealed any existing malformation or other physical difficulty. It was apt to be more tedious than those which followed, and so it entailed greater risk to life. At the first confinement also the nervous anticipation of the patient was greater in entering on an untried experience. Again, the large majority of illegitimate births were included in the list of first labours. From all these causes, the mortality of women at the first child-birth was exceptionally heavy. But with regard to subsequent confinements, these only occurred to women who had passed safely through the ordeal of the first labour, and had so far retained their health as to become again fertile. Hence the risk was much less. He would therefore suggest that in Diagram A the dotted line representing the unadjusted figures for the second confinement was the more accurate, and that the line should drop suddenly from the first to the second, and then gradually rise, showing, as the author stated, that when the ninth or tenth confinement was reached, the danger became as great as it was at the first.

Then, passing on to the third table, of deaths at first labours, classified according to age, although the data were small (233 deaths), they were larger than any to which he had had access. Dr. Matthews Duncan gave in one series 97, and in another 50 deaths of mothers at their first confinements, but the results he obtained were closely identical with Mr. Coghlan's. For it was shown that between the ages of 20 and 30 there was a minimum risk to the mother, and a greater risk before and after that period. As regarded Table V, the deaths among unmarried women at 35 years and over were singularly few. This he could only attribute to the fact that the figures were furnished from institutions where the patients were very carefully tended. Then the age at

which among married women child-birth was attended with the least mortality was given in the paper as 23 years. Dr. Duncan gave 25 years. That might possibly be accounted for by the fact of Australian women maturing at an earlier age than English women. The alteration made in the proportion of deaths at the second confinement rather vitiated the results stated in the small table following Table VII. He followed the previous speaker in hesitating to accept the rather startling results at which Mr. Coghlan had arrived in Tables VII and VIII. Much careful investigation would be required to follow the process by which he had arrived at those results. Table VIII was also liable to misconception. The fact must be remembered that women married at the later ages were frequently sterile. One would have expected to see the risk of death at child-birth rising considerably at these later ages, but it did not do so in this table simply because the later marriages were so often infertile. The paper, in spite of all the little criticisms one might be able to make upon it, was an important one, well worthy of finding a place in the records of the Society, and of careful study by those who were interested in this branch of vital statistics.

Mr. B. A. H. Woodd thought that what would especially attract the lay mind in the paper was the last few lines. He did not quite understand how these statistics were made out, and he would like very much to know what was the average expectation of deaths in child-birth in this country, if it was known. According to the paper it appeared that in Australia about 4 per cent. of the women who married died in child-birth, but he did not know whether that was the case in England.

Mr. G. Udny Yule said that most of the points he had noted for remark had been already touched upon. One factor that might affect the death-rates in child-birth was the sex of the child, a point that had not been dealt with in the paper; and possibly a difference in the sex-rate might account for some of the difference between risk at confinement for married and unmarried women. The paper was one on a most important subject, and was most valuable for comparative purposes. The first speaker was rather severe in calling the paper misleading, because its statistics were not valid for England; as its subject was New South Wales, this could hardly be expected.

The Chairman (Mr. C. S. Loch) asked whether anyone present could speak from colonial experience on a point which had been suggested to him: the likelihood of deaths in child-birth resulting in the colony from insufficient means of procuring medical assistance. The distance between outlying stations would be great, and this perhaps would give rise to difficulties that might possibly invalidate any comparison between the colony and England. In concluding the discussion, he said that it seemed strange that a paper dealing with this subject should appear to be so novel in many ways, and that completer data were not forthcoming. He

fully expected that they would have had some English figures compiled on the same basis as those given in the paper; they would be of great value at the present time. There was no doubt a movement on foot for the admission of women to friendly societies, and everyone would desire that insurance in regard to confinements should as far as possible be placed on an actuarial basis. He hoped that this paper would be followed by others, in which our English data might be utilised in a similar form. They were greatly indebted to Dr. Fox for his references to what had been done in the past, and he had shown also how uncertain judgment on such a point might be. He had expressed the opinion that the figures showed a close approximation to what might have been anticipated in Australia. Mrs. Garrett Anderson on the other hand considered them altogether excessive. But after all they were left in doubt as to what should be expected in England. The tables on pp. 526 and 527 had been much criticised, and to judge from the debate, several of the statements in the paper could only be accepted in a guarded form. To any who might read hastily the concluding paragraph, without having thought out the steps by which the conclusions summed up in it were reached, so absolute a statement would be misleading. He hoped that additional English and other experiences could be collected, so that a more complete statement on the subject might be submitted to the members, if possible, in their next session. Two or three main issues came out clearly, but even these might be further elucidated; for instance, the larger proportion of deaths in the case of unmarried women and the larger number of deaths in first confinements. In any case they must thank Mr. Coghlan for a very suggestive paper, the importance of which was clearly shown by the discussion.

MISCELLANEA.

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I.—*Miscellaneous Applications of the Calculus of Probabilities*—Contd.[1] *By* Professor F. Y. Edgeworth, M.A., D.C.L.

IV. The higher theory of probabilities is not restricted to organic nature; the law of error is fulfilled in social life also, whenever a great number of independent causes act. For example, the multifarious motives which sway voters at a contested election may be expected to produce results dispersed about an average according to that normal law. This conjecture has been verified by Mrs. Bryant, D.Sc., who has tabulated the ratios, number of *Unionists* ÷ (number of *Unionists* + number of *Gladstonians*), in each English constituency, for the last three elections, in the years 1886, 1892, and 1895 respectively. For the first election the ratios were obtained by operating on the figures given in *Dodd's Parliamentary Companion*. For the two latter elections the ratios were deduced from the "majorities per cent." given by Mr. Baines in the last appendix to his paper,[2] "On the Parliamentary Representation in England," read before the Statistical Society in January, 1896. The grouping of the ratios is exhibited in Table I annexed. It is evident on inspection that there is a certain approximation to the normal form. The symmetry proper to the law of error is evidenced by the close correspondence between the arithmetic mean and the median as shown in the first part of Table II annexed. A more exact verification is afforded by calculating the characteristic or modulus for each group by different formulæ,[3] namely:—

[1] See *Journal of the Royal Statistical Society* for March, 1898.

[2] Any of Mr. Baines's "majorities per cent.," say r, is a ratio of the form $r = (U - G) \div G$ [or $(G - U) \div U$]; where U is the number of Unionist votes, G the number of Gladstonian votes, actually given in any constituency. Whence $U \div (U + G)$, the ratio which we require $= (1 + r) \div (2 + r)$ $\left[\text{or } \frac{1}{2 + r}\right]$.

[3] On these formulæ, see my paper on "Methods of Statistics," Jubilee number of the *Journal of the Royal Statistical Society*, 1885.

(*a.*) Modulus = $\frac{1}{2}$ distance-between-quartiles ÷ 0·4769..;

(*b.*) Modulus = mean deviation (from the arithmetic mean) × $\sqrt{\pi}$;

(*c.*) Modulus = square root of twice-mean-square of deviation.

The latter results are exhibited in the second part of Table II. The fourth column is obtained by dividing half the interquartile, or distance between the first and second quartile, for each group by 0·4769.., the well known constant expressing the *probable-error* as a fraction of the *modulus*. The fifth column is obtained by finding the deviation of each ratio in one of the columns in Table I from the arithmetic mean of the ratios in that column, taking the average of those deviations (without regard to their *signs*, all treated as positive) for each year, and multiplying that average by $\sqrt{\pi}$. The sixth column is formed by finding the mean *square* of the deviations as above defined for each year, multiplying by two, and extracting the square root.

TABLE I.—*Showing the Distribution of the Ratios, Unionist Votes ÷ Total Votes, in English Constituencies for Three Elections.*

$\frac{U}{U+G}$	1886.	1892.	1895.	$\frac{U}{U+G}$	1886.	1892.	1895.
17	—	—	1	51	18	25	27
18	—	—	—	52	14	30	30
19	—	1	—	53	22	19	33
20	—	—	—	54	21	18	14
21	—	—	1	55	15	17	14
22	—	—	—	56	17	16	21
23	—	—	—	57	6	12	13
24	1	1	—	58	12	9	10
25	—	—	—	59	7	11	3
26	—	—	1	60	5	9	12
27	—	—	—	61	4	4	6
28	1	—	—	62	6	6	4
29	—	—	—	63	7	5	3
30	—	1	1	64	3	10	2
31	2	1	1	65	6	5	2
32	1	—	—	66	1	2	1
33	1	1	—	67	2	2	2
34	2	1	—	68	2	3	2
35	1	3	1	69	2	—	1
36	3	5	—	70	2	2	1
37	1	4	—	71	1	1	1
38	2	10	—	72	1	2	—
39	4	3	—	73	—	—	2
40	2	7	4	74	2	—	—
41	4	9	8	75	—	—	1
42	6	10	4	76	1	—	1
43	7	10	3	77	1	1	—
44	11	11	7	78	1	1	1
45	5	13	10	79	1	—	1
46	4	16	9	80	3	1	—
47	8	21	15	81	—	—	—
48	11	27	22	82	—	—	1
49	12	29	16	83	—	1	—
50	20	24	25				

If the law was exactly fulfilled, the results obtained by these three formulæ should be identical. As it is, it may be observed that the higher the powers of the deviations which enter to the formula, the larger is the result; whence it may be inferred that one or both extremities diverge from the centre in excess of what the normal law requires.

TABLE II.—*Showing the Fulfilment of the Law of Error by the Ratios* Unionist Votes ÷ Total Votes *in English Constituencies at Three Elections.*

1 Year of Election.	2 Arithmetic Mean.	3 Median.	4 Interquartile ÷ 9539.	5 $\sqrt{\pi} \times Se \div n$.	6 $\sqrt{2\frac{Se^2}{n}}$.
1886.....	0·533	0·533	0·1035	0·116	0·127
'92.....	0·514	0·511	0·094	0·106	0·115
'95.....	0·527	0·524	0·0784	0·0925	0·106

The approximation to the normal law is sufficient to justify an inference which may be useful as to the relation between the majority in the (part of the) country considered and the majority in the (the corresponding part of the) House of Representatives. Let us define as the *relative majority* in either body the majority in the ordinary sense (*e.g.*, number of Unionists *minus* number of Gladstonians) divided by half the total number (of members in the House, or votes in the country). One of these relative majorities may be expressed in terms of the other, if the statistics fulfil the law of error, together with a certain supplementary condition which I proceed to state.

Put u_1, u_2, u_3, &c., for the ratios exhibited in the first table, namely, number of Unionist votes ÷ (number of Unionist votes + number of Gladstonian votes) for the first, second, &c., constituency respectively, and put n_1, n_2, &c., for the numbers of votes given in each constituency. Then the proportion of Unionists votes to the total number of votes given in the country is $= n_1 u_1 + n_2 u_2 + \&c. + n_m u^m \div (n_1 + n_2 + \&c. + n_m)$, m being the number of constituencies. This ratio is approximately equal to $(u_1 + u_2 + \&c. + u_m) \div m$. For, *à priori*, if the n's—the effective sizes—as we may call the number of votes actually given—of the constituencies, though unequal, are distributed indiscriminately, without bias, between the two parties, it may be expected by a known theorem[4] that the first written *weighted* average will be nearly equal to the unweighted average following. In other terms, $\frac{S_1^m n_r u}{S_1^m n_r} = \frac{S_1^m u}{m}$ nearly. And *à posteriori* this equation is found to hold with regard to England, as Table III annexed shows:—

[4] For proofs and illustrations of this theorem, see Mr. Bowley's paper on "Relations between the Accuracy of an Average and that of its Constituent Parts," in the *Journal of the Royal Statistical Society* for December, 1897.

TABLE III.—*Showing that the (Effective) Sizes of Constituencies are indiscriminately Distributed between the Two Parties.*

1 Year of Election.	2 $S_1^m u \div m.$	3 $S_1^m \div S_1^m n.$
1886.....	0·533	0·528
'92.....	0·514	0·511
'95	0·527	0·524

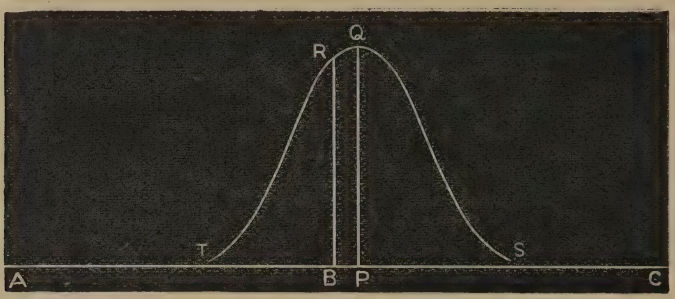
In this table the second column shows for the three elections under consideration, the arithmetical mean of the ratios of the form u which are exhibited above in Table I. The third column gives the proportion of Unionist votes to the total number of votes in the country actually given. This datum has been obtained for 1886 by adding up the votes polled for both parties in England, as given in *Dodd's Parliamentary Companion*.[5] For 1892 and 1895 the votes cast in England for the two parties are deduced from Mr. Baines's statistics, thus. Mr. Baines gives the number of Unionist "votes polled" and the number of Gladstonian "votes polled" (see his Table B, Part II, V). But these "votes polled" are not the same as our votes actually given at contested elections. Mr. Baines's number is made up of votes actually given at contested elections and potential votes for uncontested constituencies, numbers estimated by him as what might have been given if there had been a contest. He has very kindly communicated to me the numbers which were thus constructively added by him. These numbers being subtracted respectively from Mr. Baines's "votes polled" for each party, there remain the numbers of votes actually cast in the constituencies which my coadjutor and I have dealt with. The calculation is shown in Table IV annexed. The close correspondence between the weighted averages shown in Table III, and the simple average found from Table I, fully confirms our supplementary proposition as to the distribution of sizes.

TABLE IV.—*Showing the Determination of Votes actually Given at Contested Elections in* 1892 *and* 1895.

	1892.		1895.	
	Unionist.	Gladstonian.	Unionist.	Gladstonian.
"Votes polled".....	1,949,260	1,839,242	2,134,397	1,738,630
Constructive votes	190,019	154,290	587,402	334,474
Votes actually given....	1,759,241	1,684,952	1,546,995	1,404,156
Total votes actually given	3,444,193		2,951,151	
$S_1^m nu \div S_1^m n$	0·511		0·524	

[5] The data for England and Wales mixed up in the *Companion*, had to be separated for the present purpose.

Let it be granted then that both the law of error and the supplementary proposition are fulfilled. From the first postulate it follows that the ratios U ÷ (U + G), recorded in the first table, for the constituencies may be arranged in conformity with a curve such as that which is shown in the annexed figure.



In this figure AC represents unity, AB represents 0·5, AP the average of the ratios U ÷ (U + G) for a given year, *e.g.*, for 1886, 0·533. TRQS is a "probability"—or "error"—curve having P as its centre and a modulus about 0·1; the curve according to which the ratios U ÷ (U + G) are grouped. The area contained between the curve and abscissa to the right of RB represents the proportion of constituencies which have U ÷ (U + G) greater than 0·5; and accordingly return a Unionist member, that is the proportion of Unionist members in the House. The area to the left of RB represents the proportion of Gladstonian members in the House. Now the area BRQP (1) = area right of RB *minus* 0·5 and (2) = 0·5 *minus* area left of RB. Therefore the area BRQP = half proportion of Unionist members in the House *minus* proportion of Gladstonian members in the House = *relative majority* (as above defined) in the House. But the area BRQP is connected with the distance BP by an equation of the form: Area BRQP $= \theta\left(\frac{\text{BP}}{\text{Modulus}}\right)$, where $\theta(x)$ is the integral $\frac{2}{\sqrt{\pi}}\int_0^x e^{-x^2}dx$ tabulated in the books on probabilities, and the *modulus* pertains to the probability curve TRQS. Also the distance BP is equal to the relative majority in the country. For by our supplementary proposition AP is equal to the proportion of Unionist votes (actually given) in the country; CP (= 1 − AP) = the proportion of Gladstonian votes. Therefore BP = ½ (AP − CP) = relative majority in the country. Thus we have obtained an equation connecting the majority in the House with that in the country: namely, relative majority in the House $= \frac{1}{2}\theta\left(\frac{\text{Relative majority in the country}}{\text{Modulus}}\right)$.

In symbols, if β is put for the quantity on the left side of the equation, and ξ for the independent variable of which θ is a

function, $\beta = \frac{1}{2}\theta(\xi)$, and the proportion of Unionists is $\frac{1}{2} + \beta$, that of Gladstonians $\frac{1}{2} - \beta$. In Table V annexed the proportion of

TABLE V.—*Showing the Percentage of Unionist Members in the House as calculated from the Percentage of Unionist Votes in the Country; and comparing the Calculated with the Observed Percentages.*

1 Year of Election.	2 b.	3 M.	4 $\xi(= b \div M)$.	5 $\beta(= \frac{1}{2}\theta[\xi])$.	6 Calculated Percentage of Unionists in the House.	7 Observed Percentage of Unionists in the House.
1886.....	0·028	0·1035	0·270	0·149	64·9	66·0
'92.....	0·011	0·094	0·117	0·066	56·6	56·2
'95.....	0·021	0·078	0·306	0·167	66·7	69·2

Unionists in the House, as calculated by this formula, is compared with the proportion actually observed in each of the three years. In this table the second column gives b, the relative majority in the country, that is the entry for each year in the third column of Table III, less by 0·5. Col. 3 gives M the modulus taken from the first column of the second part of Table II. Col. 4 gives the values of $\frac{b}{M}$ or ξ. Col. 5 gives the corresponding values of $\beta = \frac{1}{2}\theta(\xi)$, taken from the well known tables given in treatises on probabilities. Col. 6, formed by adding 0·5 to β, gives the percentage of Unionist members in the House as calculated from the percentage of votes in the country. Col. 7 gives the percentage of Unionist members as actually observed.

The correspondence between theory and fact is seen to be very close.

Accordingly much the same relation between the majority in country and the majority in the House may be expected to hold in adjacent cases—*e.g.* the next election in England, upon a similar issue—if not only the general postulates continue to be fulfilled, but also the particular values of the constants involved (b and M) are approximately the same. Even if these constants are quite different, provided that the postulates hold, the general relation between the two majorities, that β, the majority in the House, is greater than b, the majority in the country, will continue to subsist. For this relation continues to subsist as long as b is less than $\frac{1}{2}\theta\left(\frac{b}{M}\right)$. And it may be proved that b is less than $\frac{1}{2}\theta\left(\frac{b}{M}\right)$ for all possible values of b and M.[6]

[6] The case most unfavourable to the relation is when $\frac{1}{2}\theta\left(\frac{b}{M}\right) \div b$ is as small as possible. This quotient becomes smaller the more b is increased and the more M is increased. But the increase of these quantities is limited by the condition that the probability curve of which the centre is at the distance b from 0·5 and the modulus is M, should fit in between 1 and 0. It results from this condition that

The practical value of the rule is much impaired by our inability to foresee beyond adjacent cases that the conditions upon which the rule depends will be fulfilled. For instance, it would not be safe to predict that what is true of county elections will be true of county council elections. In fact, the last election for the London County Council does not fulfil the conditions which have been specified. The statistics relating to this election given in the *Daily Chronicle* for 4th March, 1897 (supplemented by subsequent issues) have been ably analysed by Miss Edith Cooke, of Girton College, to whom I am indebted for the materials of the annexed table.

TABLE VI.—*Showing the Distribution, the Ratio, and Number of Moderate Votes ÷ Total Number of Votes at the Election for the London County Council in* 1898.

29.....	1	40.....	3	51.....	—	62.....	1	73.....	1
30.....	—	41.....	3	52.....	2	63.....	—	74.....	—
31.....	1	42.....	2	53.....	3	64.....	—	75.....	—
32.....	1	43.....	1	54.....	1	65.....	—	76.....	1
33.....	—	44.....	3	55.....	3	66.....	—	77.....	1
34.....	2	45.....	3	56.....	1	67.....	—	78.....	1
35.....	—	46.....	2	57.....	1	68.....	—	79.....	—
36.....	3	47.....	3	58.....	1	69.....	1	80.....	—
37.....	2	48.....	1	59.....	2	70.....	—	81.....	—
38.....	1	49.....	—	60.....	1	71.....	1*	82.....	1
39.....	1	50.....	1	61.....	—	72.....	—		

* The percentage of Moderate votes in the city.

The first column of this table contains values of the ratio number of Moderate votes ÷ number of Moderate + Progressive, say, M ÷ (M + P). The second column gives the number of constituencies which present each particular ratio. The ratio pertaining to each constituency is thus determined. The number of votes given to the Moderate candidates in a particular constituency is divided by the total number of votes given in that constituency. As there are only two members for each of the constituencies, except the city for which there are four members; and as the members in each constituency were either both Moderate or both Progressive in each of the constituencies except two, by omitting those two and also the city, the method of determining M ÷ (M + P) which has been adopted gives homogeneous results comparable to those which have been given for the counties in Table I.

It will be evident on inspection of this table that the law of error is not fulfilled by the ratios M ÷ (M + P). There is a quite

$(b + 2M)$ must not exceed 0·5. Subject to the condition that $b + 2M = 0{\cdot}5$, what is the value of b which makes $\frac{1}{2}\theta\left(\frac{b}{M}\right) \div b$ a minimum? It appears that this quotient diminishes as b is increased from 0 to 0·5, while M is diminished from 0·25 to zero. Only at that practically unattainable limit will the majority in the House be equal to the majority in the country; in general the majority in the House must be greater.

inadmissible depression in the middle of the group. Again, the quartiles are far from being equidistant, as they ought to be, from the median. The median is at 46·25, and the first quartile is at 40·6 nearly, while the second quartile is at 55·4 nearly. Again, the arithmetic mean, 52·4, is very far from coinciding, as it ought, with the median.

The law of error not being fulfilled, no inference can be made from the percentage of Progressives "in the country" (*i.e.*, the fifty-five constituencies under consideration), which proves to be 50·86,[7] and the percentage "in the House," which is 60. The law of error not being fulfilled, it may well happen that a majority in the House coexists with a minority in the country. Indeed this anomaly actually occurs when we take in the votes of the city. The proportion of Progressives "in the country" then becomes 0·49,[8] while the percentage "in the House" is 58. It is conceivable that the anomaly might have been much more striking. Cases may be imagined in which out of the one-membered constituencies $(m-1)$ elect members of one party, and yet this immense majority in the House may coexist with a minority in the country. If each of the $(m-1)$ members were elected by a very small majority the excess of votes on that side in those $(m-1)$ constituencies—in all not necessarily more than $(m-1)$—might be overbalanced by the votes on the other side in the remaining constituency.

But this supposition doubtless exaggerates the precariousness of representative institutions. For it must be remembered that even when the law of error is not perfectly fulfilled, it is always getting on towards fulfilment. Some partial regularity may generally be expected. Thus even in the example of the London County Council elections the law of error may be fulfilled by each party separately. There may be two types consisting of the M.'s and P.'s respectively. Or some of the constituencies which returned say Moderate members ought to be ranked with one type consisting mainly of Progressives; while some of the constituencies which returned Progressives ought to be ranked with the other type consisting mainly of Moderates. In such a case the positions and characteristics of the two types might be determined by Professor Karl Pearson's beautiful method of breaking up a given set of statistics into two normal groups.[9] Or the division might be given *à priori* by a territorial or other classification. It might be expected for instance that Wales, or Ireland, would form a type distinct from England. Considering the relations between two integrant parts of a United Kingdom, each of which forms separately a perfect type, with opposite parties in a majority in

[7] The number of moderate votes in the fifty-five constituencies is found by Miss Edith Cooke to be 270,232; the total number of votes in those constituencies 550,330.

[8] Still omitting the two constituencies referred to. If they are restored, and the unmanipulated totals of votes are compared, the anomaly still subsists. It has been noticed by Sir John Lubbock in a letter to the *Times*.

[9] Referred to in the *Journal of the Statistical Society*, Dec., 1893.

the two parts, *e.g*, Unionists in England, Home Rulers in Wales, it may be observed that *ceteris paribus* the region in which the ratios of the form $U \div (U + G)$ are least dispersed has weight in the imperial parliament out of proportion to its numerical strength. The modulus characterising that dispersion being for England as above shown about 0·1, or 10 per cent., if the corresponding modulus for Wales or Scotland were 5 per cent., Wales or Scotland would *pro tanto* weigh more in the imperial parliament. As a matter of fact, I find by a summary examination, there is no great difference in respect of dispersion between England and Wales.

The case of *three* or more distinct types is less manageable. However, as we lose the advantages of paucity we begin to gain the advantages of plurality. A number of particular types tend to melt into one general one. There is reason to think that the type which we have obtained for England is a compound of this sort.

This is a view of the law of error more general than that which is presented in the text books. The simpler conception is that each member of a group diverges from the mean of all, independently of the others. Thus, when a number of shots are fired at a vertical target, the distance of each bullet-mark from a vertical line through the bull's-eye may be regarded as due to a combination of disturbances special to each shot. But there is a more general view, according to which the total group is compounded of several normal sub-groups, of which the sizes are distributed according to a law of error. It is as if there were substituted for the bullets of our first illustration a set of shells dispersed in a positive and negative direction, according to a simple law of error. Each shell on striking the target bursts, and scatters bullets in both directions, according to the normal law. It is mathematically deducible that the whole group of bullet-marks will obey a law of error, the modulus of which will of course be larger than the modulus according to which the contents of each shell are dispersed. The number and the dispersion of the bullets belonging to each shell may at first be supposed identical; but the conclusion will not be affected if this equality exists not exactly, but only on an average.

In some such way, I think, is to be accounted for the circumstance that a large group like the statures of the Italian conscripts, though it obeys the law of error, can be broken up into sub-groups, such as the several provinces, each normally dispersed about a different centre. The dispersion in this case is sensibly the same in the different sub-groups, while the distance between these centres is slight. In such a case the condition that the sizes of the sub-groups should be normally dispersed may be relaxed.

It may be difficult to say in any given case, such as the one before us, whether the normality of the total group owes more to the proximity of the centres, or to the normal dispersion of the sizes, of the sub-groups. It should seem that one or other of the conditions must be largely realised; and yet not completely, as appears from the fact that the values of the modulus determined by different methods are sensibly different, as shown in Table II. The hypothesis that the group of shells, so to speak, is elongated

at its extremities more than is consistent with the law of error, would account for the fact that the given observations, the group of bullet-marks, presents the anomaly which has been noticed.

The hypothesis of a compound structure agrees with the fact that our group of ratios $U \div (U + G)$ is very far from conforming to the simplest arrangement of ratios, namely, that which is defined in Professor Lexis's phrase the "combinatorial" modulus,[10] that which would occur if the proportion of votes in each constituency were obtained by taking at random so many votes from a vast urn containing Unionist and Gladstonian votes mixed up in the ratio actually prevailing for all England, say for 1892, 0·514. This ideal distribution could be at once assigned if the number of votes in all the constituencies were equal. Thus, the total number of votes cast in 1892 being 3,444,193, as shown in Table IV, and the number of members elected being 420, the approximate number of votes to each member would be 8,200. Whence the modulus for the dispersion of the ratios $U \div (U + G)$ should be, according to the general rule, $\sqrt{2 \times 0{\cdot}514 \times 0{\cdot}486} \div 8{,}200 = 0{\cdot}008$ nearly. While the observed "physical" modulus is at least 0·094, more than ten times greater than the combinatorial modulus! It is true that the latter is sensibly increased by the circumstance that the sizes of the constituencies, as measured by the votes actually cast, vary considerably. But, taking account of that variation, I find the discrepancy between the physical and combinatorial modulus still enormous.

The question may now be asked? Such being the character of our group, why should we have selected as the attribute to be tabulated the ratio $U \div U + G$, which has a peculiar affinity to the combinatorial hypothesis, rather than any other ratio, *e.g.*, $U \div G$, or the ratio which constitutes Mr. Baines's (Unionist) "net majority," viz.: $(U - G) \div G$. The answer is I think that the values of $U \div U + G$ lie more symmetrically between the mean and the extremes than those of the other ratios. This knowledge is obtained mainly by actual observations; however, it may derive some confirmation from *à priori* presumption. There is no reason, as far as I know, to expect that large majorities should be obtained by one party rather than another. When it is known that $U \div U + G$ thus forms a symmetrical curve, it is known that the other ratios do not. For instance, in 1892 the mean for $U \div U + G$ is 0·51 and the extremes are 0·19 and 0·83, nearly equidistant from the mean. If we transform the curve so as to represent the frequency of $U \div G$, the lower extreme becomes $0{\cdot}19 \div (1 - 0{\cdot}19) = 0{\cdot}2345$; and the upper extreme $0{\cdot}82 \div (1 - 0{\cdot}82) = 4{\cdot}5'$; while the mean becomes $0{\cdot}51 \div (1 - 0{\cdot}51) = 1{\cdot}041$, no longer lying evenly between the two extremes. This sort of displacement of course extends to other values of $U \div (U + G)$ in the neighbourhood of 0·19 and 0·82. A similar distortion will result if we tabulate the net majorities of the form $(U - G) \div G$. The lower extremes

[10] See "Methods of Statistics," Jubilee volume of the *Journal of the Royal Statistical Society* (1885), p. 191.

becomes now $2 - 0{\cdot}19 \div (1 - 0{\cdot}19) = 2{\cdot}2$; the upper extreme $2 - 0{\cdot}82 \div (1 - 0\,82) = 6{\cdot}5'$; while the mean becomes 3·04.[11]

However, these dislocations may be less serious than at first sight appears. For it is the central part of a group which may be expected to obey the law of error; and the central part is apt not to be much affected by the transformations in question. Thus in the case considered, the group of $U \div (U + G)$ for 1892, the quartiles are approximately $0{\cdot}51 \pm 0{\cdot}047$. Accordingly the quartiles of the transformed curve representing $U \div G$ are nearly $(0{\cdot}51 \pm 2 \times 0{\cdot}047) \div (0{\cdot}49)$, which will be found to be still nearly equidistant from the new median $0{\cdot}51 \div 0{\cdot}49$. In fact we have seen in the case of male and female births[12] that the ratios $M \div F$ obey the law of error very well; while, on a very probable hypothesis, the ratios $M \div (M + F)$ obey it even better. Given a group of measurements, x_1, x_2, &c., which obey the law of error, there exists in general a large class of functions such that the values of $f(x)$ also obey the law.

No doubt, as the function f is varied, forms will occur such that the group of values $f(x_1), f(x_2) \ldots$ is less and less conformable to a probability-curve. It is possible that some "skew" frequency-curves may have been generated by a transformation of this sort from normal curves.[13]

I trust that some of these reflections may have, at least, a theoretical interest. Most of the calculations by which they have been suggested, or verified, have been performed, as already mentioned, by two able and careful co-adjutors, Mrs. Bryant, D.Sc., of the University of London, and Miss Edith Cooke, of Girton College, Cambridge.

II.—*London's "Storied Urn," the Statistical Aspect of Recent County Council Elections.* *By* J. A. Baines, C.S.I.

In opening the discussion upon a paper read by me in 1896 before this Society, on the general parliamentary elections of 1892 and 1895, Sir John Lubbock, who did me the honour of presiding on the occasion, gave point to his remarks upon the general working of our representative system, by referring to the voting at the London County Council election of the latter year. "At that election," he said, "the Moderates had a majority of some 12,000 votes, but the result was that the two parties were exactly even, so far as the elected members went. At the previous election, however, the Progressives, with exactly the

[11] I am here supposing the values of $U - G \div G$ to be tabulated continuously, not only for those constituencies which have a Unionist majority, as Mr. Baines very properly for his purpose has proceeded. (*Cf.* above, p. 534, note.)

[12] Part III of this Paper, *Journal of the Royal Statistical Society*, 1898. Part I, p. 120, note.

[13] The subject is discussed at some length in a paper on the *Representation of Statistics by Mathematical Formulæ*, read before the British Association, Section A, at Bristol, 1898. (I hope to publish at least a part of this Paper in an early issue of our *Journal*.—Editor.)

same majority of votes, had a majority of 50 out of 124—(so in the original. Elsewhere I have seen the figures stated as 48 out of 118)—elected members. It was clear, therefore, that the result of an election did not depend, under the present system of voting, upon the number of votes, but upon the way in which the votes happened to lie."

This observation directed my attention towards the metropolitan plebiscite as a complement of the analysis I had made of the working of the machine over a wider field. The results now set forth may be found, I trust, not altogether devoid of interest to my statistical colleagues, whether as students or as citizens.

It seems desirable, as a preliminary, that such an analysis should be accompanied by an adequate appreciation of the vast difference which is found among metropolitan constituencies in the matter of population, occupation, and resources. Table A, appended to this paper, gives accordingly the population in 1896 and the rateable value in the same year, of each electoral division, along with the distribution of the rated householders, a figure which represents with approximate accuracy the number of assessments. As there are fifty-eight items in this return, some form of classification is obviously necessary, but it is equally apparent that no method of grouping is likely to be acceptable to all alike, or, indeed, to be absolutely in accordance with the main object of its preparation. I have selected, however, four general and comprehensive divisions, admittedly of a makeshift character, and open to the numerous objections that will no doubt occur to my cockney readers. The graduation adopted is apparently fairly regular only in respect to the factor of rateable value, a factor which, I ought to say, was not taken into account in arranging the groups, for the sufficient reason that the incidence was not computed until the table had been drawn up. We have, in the first place, the distinctively commercial parts of the county, headed by the City of London. In the second division are grouped the constituencies which are, in the main, residential, both town and suburban. It then seemed to me necessary to interpolate a small group of indeterminate character, in which there is a combination of commerce with either residential or industrial features, and the table concludes with the large section in which manual industry appears to predominate. Even here, however, in a few divisions, chiefly along the south bank, the commercial element seems to demand more prominent recognition than has been allotted to it, but, as I have already pointed out, it is almost impossible to devise groups which will be found mutually exclusive.

The first point which will attract the attention here is, no doubt, the remarkable predominance of the City in the general mean of incidence. The mean rateable value per head being £8·14, a reduction of nearly a pound is made by excluding the City figure, which reaches no less than £144·2. The incidence of the rated householders upon the general population is less affected, owing to the comparatively small population of the City, according to the day census of 1891 brought up to 1896. But even in this respect the mean is raised from 15·5 per cent. to 16, by the

inclusion of the 94·8 per cent. of the City. I have given, therefore, where necessary, a subordinate total, from which the latter is excluded, in order that so abnormal an influence may not impair the use of the general mean. The table in question can be best considered in its proportional form, which may be summarised as follows:—

Group.	1 Population, 1896.	2 Rated Householders, 1896.	3 Rateable Value, 1896.	4 County Representation.	5 Mean of Ratio in Cols. 1, 2, and 3.	6 Divergence of Col. 4 from Mean.
A. Commercial	46	96	215	85	119	−34
B. Residential...	279	289	384	254	318	−64
C. Composite ...	149	140	114	136	134	+ 2
D. Industrial ...	526	475	287	525	429	+96
Total	1,000	1,000	1,000	1,000	1,000	±98

Comment upon the above is superfluous, as readers of this *Journal* will easily appreciate the material disproportions in the reduction. In the fifth column is given the distribution based on the mean of population, rateable value, and number of rated householders combined, by which a rough measure is given in the last column, of how far the existing condition is, so to speak, "out of plumb." As to the detail of the table, the principal point calling for remark is the capitation incidence of the rateable value, the group mean of which seems, on the whole, to indicate a certain degree of general uniformity in the items thus placed in combination. The first group is, of course, an exception, whether the City be included or not, as the Strand overwhelms Finsbury as to incidence. In the next group, again, the "villadom" of the south drags down the higher rates of Mayfair and Belgravia to nearly the figure of Hampstead. The gap between this group and the next, however, is fairly demarcated, and is emphasised by the fall in the proportion of rated householders in the St. Pancras and Islington divisions in this section. Between the second and the third groups there is a fall of about 44 per cent. in the rateable incidence, but between the third and fourth groups the corresponding decline is only 28 per cent. This last group too, is, on the whole, very evenly spread, as thirteen of the items lie below and eighteen above, the mean, whereas in the second group only five out of fifteen exceed the average. The small composite section shows equal division in this respect. Setting on one side the City, the extreme divergence from the mean of £7·18 per head is found, on the one hand, in the Strand and St. George's, Hanover Square, with £33·5 and £24·8 respectively, and, on the other, in South Hackney, the East End divisions of Bethnal Green, Mile End, Stepney, Bow and Haggerston, with North Camberwell and Walworth on the Surrey side, none of which reaches a mean of 4*l.* per head. As regards the incidence of ratepayers, the circumstances to be taken into account are so numerous that the variations had better be left unexplained.

Table B. I now pass to the second return, which deals with the extent to which the electorate availed themselves of the franchise at the two last County elections. Taking the metropolis as a whole, just half the registered voters dropped papers into the ballot box. In March, 1895, the proportion was a small fraction below, and at this year's contest, a still smaller fraction above, that figure. In the interval, the electorate had increased by 6 per cent., and the poll surpassed this addition by nearly 2 per cent.; the interest in the operations thus being greater at the last election by about 8 per cent. than that shown in 1895. As it may be interesting to some to compare these figures with those of a parliamentary struggle, I have added to the return the corresponding proportions at the two last General Elections, when they were, for the metropolis as a whole, 70 and 68 per cent. respectively. It will be noticed that except in the case of Holborn the proportion that went to the poll in 1892 was nowhere less than 64 per cent., a *nadir* reached in the scattered area of Wandsworth, where, again, in 1895, the lowest figure was touched, with 57 per cent. There appears, too, something of a Laodicean tepidity about Dulwich and Brixton in Imperial matters, which the former carries into municipal contests. In the County election of 1895 as many as 60 per cent. of the electorate voted in three constituencies only—Greenwich, 62, and North Islington, 61; while the small but festive St. George's-in-the-East, which seems never to fail to rally to the occasion, headed the list, as it did again in 1898, with more than 70 per cent. On the other side of the scale, the greatest apathy is found in the commercial and residential groups. Of the former, three out of four divisions sent only 40 per cent. or less to the poll; the City lagging behind with scarcely a third of its electorate. St. George's Hanover Square, Westminster, and South Kensington are also lax, and Tyburnia is but little more alive to the privilege of backing its opinion on municipal policy. The remarkably small poll in the two Bethnal Green divisions in 1895 is probably attributable to temporary aberration, due to local morbidity, like that of South St. Pancras in 1898, when the call was feeble and unexpected. Taking the grouped aggregates, we find the poll inferior in numerical strength to the increase in the electorate in the first three sections. In the fourth, on the contrary, the register showed an expansion of 5·5 per cent., whilst the poll increased by nearly double that proportion. Thus the ratio of electors voting to those on the list in the two elections was only 37·3 and 36·9 per cent. in the commercial group, 48·3 and 47·9 per cent. in the residential, and 52·1 and 51·4 per cent. in the composite division. In the fourth group, however, the vote grew from 51·2 to 53·4 per cent., and exceeded 60 per cent. in six constituencies against three in the previous contest. On the list as a whole the ratio rose in thirty-two divisions, and declined more or less in twenty-six.

Table C. This return sets forth the number of votes recorded, and, owing to the two-member system in force, the variation of the results of one election from those of another, taken as plebiscite, is even more fallacious than that of a parliamentary contest.

In the latter, the uncontested seats can be discounted with fair accuracy for the purpose of getting a general total, both parties being dealt with alike on an estimate. But in the case of a two-member constituency, if one seat only be contested, the second candidate receives his votes in despite of there being no opponent, and if, at a subsequent contest, the full number of competitors takes the field, the tale of votes jumps up, whatever be the result. The effect of this on the returns is shown in *Table* D, of which the first column is a repetition of the variation in the number of electors voting, taken from *Table* B, in order that the comparison between voters and votes may be facilitated. In 1895, eleven, and in 1893, nine seats were uncontested. On the former occasion the Moderates refrained from attacking North Camberwell, South Islington, Poplar, and North St. Pancras as second seats, and the opposite party exercised a similar discretion with regard to Hampstead, Wandsworth, Westminster, St. George's Hanover Square, Woolwich, South Paddington, and North St. Pancras. In 1898 South Islington, Poplar, and Westminster re-appear on the list, with Whitechapel, and South St. Pancras on the Moderate self-denying ordinance, while Holborn, South St. Pancras again, and two seats in the City, were avoided by their rivals. In estimating therefore the extent to which the voting power of the electors who voted was exercised, we ought to discount the number of votes which they had no opportunity of giving. Thus adjusted, the voting power utilised was about 50·3 per cent. on the total in 1895, and 51·2 in 1898. On the latter occasion the voters were 7·9 per cent. in excess of the number voting in 1895, and the number of votes they gave was 9·1 per cent. more than at the previous election. The criterion of the practical interest taken in the contest is the former, not the latter, proportion, and it is curious to see how very prevalent, in the constituencies fought under identical conditions of candidature on both occasions, is the relatively smaller increase in the number of votes as compared with that in the number of those going to the poll. This is shown in the two first columns of Table D, where a "c" affixed to the figures denotes some disturbing influence.

This introduces the question of party discipline, as distinguished from individual choice, a factor of obviously supreme importance in two-member contests, where the total number of votes depends considerably upon the extent to which the voters favour "the whole ticket." I have tried to indicate this feature in Table E, from which the comparatively insignificant item of "Independent" candidates is excluded, and the division of the votes between the two candidates of the opposed Parties is given in the percentage of the total Party vote obtained by the leading candidate of each side. On the whole, it would seem that by this test party discipline was somewhat more lax on the last occasion than in 1895. In that year the average lead by which the Moderate candidate headed his companion was about 3·3 per cent., the Progressive figure being 5 per cent. In 1898, however, both Parties show an average of 5·5. The following table gives a few of the more prominent cases of this tendency:—

Division.	Percentage of First over Second Candidate.				Division.	Percentage of First over Second Candidate.			
	1895.		1898.			1895.		1898.	
	Moderate.	Progressive.	Moderate.	Progressive.		Moderate.	Progressive.	Moderate.	Progressive.
Strand	—	—	15·1	22·7	South Islington	—	16·5	—	9·4
Central Finsbury	—	—	4·6	14·1	Whitechapel	22·3	12·4	—	8·4
North St. Pancras	—	—	24·5	10·5	Limehouse	13·0	3·3	11·1	9·0
South „	11·0	5·4	—	—	Woolwich	11·9	—	10·1	7·9
East „	11·5	17·7	—	7·7	Deptford	5·9	78·4	12·3	—
North Hackney	6·1	—	54·2	8·4	Greenwich	—	5·0	—	20·0
South „	10·1	—	—	5·8	Peckham	—	—	13·1	12·3
South Kensington	—	60·6	—	—	Wandsworth	2·6	—	16·1	15·9
Chelsea	—	12·0	10·8	10·0	North Lambeth	—	—	16·7	18·7

The figures may be left to speak for themselves here, but in other quarters they have doubtless been accompanied with wailing and gnashing of teeth, not in all cases confined within the decent limits of the Party meeting.

From the distribution of votes within the Party, the transition is natural to that of the total poll between the rivals. It is unnecessary to take into account the votes given for the candidates not affiliated to either Moderate or Progressive organisations, since their number in all was only 5,846 in 1895, and less by 770 than that figure on the last occasion. As between the two recognised sections in municipal politics, a majority on the side of the Moderates of about 31,260 votes in 1895, was reduced at the last election to one of 4,560, or, to put it proportionally, while their poll increased by 4 per cent., that of the other Party increased by over 15, the Moderate majority falling from 12·4 to 1·5 per cent. If the City be left out of the account, the Moderate majority of 6·5 was in 1898 replaced by a Progressive majority of 5 per cent. Bearing in mind that at each election four seats were uncontested by the Moderate Party, and that in 1895 the Progressives left unattacked seven, but in 1898 only five, seats, the group totals are instructive. In the commercial group there was a falling off in 1898 in the votes of both Parties, but as three seats were not contested by the Progressives, their opponents' majority shows an increase. In the two divisions in which there was a square fight, the successful party won with a reduced poll, whilst their adversaries had a considerable relative increase. In the next group the increased Progressive vote is largely due to additional contests, but in the South London divisions of Brixton, Lewisham, and Clapham, in Chelsea and East Marylebone, the increase of the votes for this party were real, not merely accidental, The same remark applies to the return for the next, or composite group, as a whole, though in Fulham and Hammersmith the Moderates gained relatively more than their rivals. In North Hackney we find the notable result of an increased majority accompanied by the loss of a seat! It is in the last or industrial

group that the variation was most marked. Here both parties increased their poll, the Moderates by 5 per cent., the Progressives by 20. But the distribution of the increase which, as Sir John Lubbock remarked on the occasion quoted in the beginning of this paper, is the important factor, was almost universal in the case of the Progressive vote, and to a considerable extent neutralised on the other side by a decrease in no less than fifteen of the thirty-one divisions in this group. The increase of the Progressive majority from 24 to 42 per cent. had the result, therefore, of transferring eleven seats, against two won by the other side. Where the Moderates gained votes relatively in excess of the increase of the Progressives, as in Bethnal Green, Hoxton, and Peckham, the margin on the side of the latter was so ample that an even stronger rally to the other standard could have been regarded by the defending Party without anxiety.

In supplement of Table C, the following summary gives a general view of the distribution of votes and representation at the two elections in each of the four groups:—

Group.	Percentage of Votes obtained by each Party in each Group.				Percentage of Representation obtained by each Party in each Group.			
	1895.		1898.		1895.		1898.	
	Moderate.	Progressive.	Moderate.	Progressive.	Moderate.	Progressive.	Moderate.	Progressive.
A. Commercial	70	30	74	26	80	20	80	20
B. Residential	62	38	59	41	90	10	87	13
C. Composite.....	51	49	50	50	62	38	62	38
D. Industrial.....	45	55	41	59	23	77	7	93
Total	53	47	50·3	49·7	50	50	40·6	59·4

This statement is plain enough as it stands. I pass accordingly to another arrangement of the same figures, showing the territorial distribution of votes. In order to facilitate comparison, the corresponding distribution of the electorate is given, since it differs slightly in all but the first group from that of the rated householders set forth at the beginning of the paper:—

Group.	1895.				1898.			
	Electorate.	Votes Recorded.			Electorate.	Votes Recorded.		
		Total.	Moderate.	Progressive.		Total.	Moderate.	Progressive.
A. Commercial	96	104	137	67	92	86	126	46
B. Residential	288	273	320	219	289	277	327	227
C. Composite.....	137	146	141	153	142	142	141	143
D. Industrial.....	479	477	402	561	477	495	406	584
Total	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

As regards the total vote, it appears that the first and last groups have exchanged 18, and the two centre groups, 4 per mille. The migratory vote on the Moderate side seems to have travelled from the commercial chiefly to the residential section, whilst on the other side, owing largely to uncontested seats, the commercial and composite groups have lost to the industrial and residential. About 58 per cent. of the Moderate, and 41 of the Progressive vote is now concentrated in the industrial section.

We may now dispense with the four-fold classification, and divide London simply between the two Parties, according to the last election, as is done in the following statement:—

	In Divisions represented by			In Divisions represented by	
	Moderate.	Progressive.		Moderate.	Progressive.
Percentage of population (1896)	41·8	58 2	Percentage of rateable value (1896)	62·3	37·7
				£	£
Percentage of rated householders (1898)	47·1	52·9	Incidence per assessment (1896)	66 87	36·10
Percentage of electorate (1898)	47·2	52·8	Incidence per head (1896)	12·34	5·27
Percentage of voters (1898)	43·7	56·3	Percentage of equalisation *charge* (1898)	96·5	3·5
Percentage of representatives (1898)	40·6	59·4	Percentage of equalisation *grant* (1898)	24·1	75·9

In apportioning the above figures, I have assigned half of those relating to North Hackney and South St. Pancras to each Party, in accordance with the representation. The equalisation figures, in cases where the unit of assessment is not co-extensive with County divisions represented entirely by one Party, have been distributed for 1898 by computation from previous returns. For the figures relating to the assessments, rateable value, and population of the different divisions, I have to tender my best thanks to our colleague Mr. Gomme, the Statistical Officer of the London County Council, but it is perhaps as well to state that I am alone responsible for the use made of them in this paper.

TABLE A.—*General Distribution by Population and Assessment.*

1 Division.	2 Population, 1896.	3 Rateable Value. 1896.	4 Rateable Value. Per Head.	5 Rated Householders. 1896.	6 Rated Householders. Per Cent. of Population.
		£	£		
A. COMMERCIAL.					
1. City	31,083	4,481,860	144·2	29,473	94·8
2. Strand	59,909	2,010,793	33·5	14,246	23·8
3. Holborn	67,425	819,626	12·1	15,764	23·4
4. East Finsbury	44,114	429,230	9·7	8,677	19·7
Total A	*202,531*	*7,741,509*	*37·7*	*68,160*	*33·6*
Total A, without City	171,448	3,259,649	19·0	38,687	22·5
B. RESIDENTIAL.					
5. St. George's Hanover Square	79,967	1,981,652	24·8	13,411	16·7
6. Westminster	53,589	880,974	16·4	10,757	20·0
7. East Marylebone	65,774	873,068	13·3	11,093	16·9
8. West ,,	75,414	731,146	9·7	13,312	17·7
9. South Paddington	53,817	848,829	15·7	7,488	13·9
10. ,, Kensington	85,092	1,580,257	18·5	13,008	15·3
11. Chelsea	96,646	784,920	8·1	15,307	15·8
12. West St. Pancras	59,507	483,021	8·1	8,389	14·1
13. Hampstead	75,449	804,678	10·6	12,040	15·9
14. Lewisham	99,962	684,348	6·8	18,126	18·1
15. Dulwich and Penge	92,103	571,995	6·2	15,410	16·7
16. Norwood	78,625	491,461	6·2	13,615	17·3
17. Brixton	75,762	433,575	5·7	12,542	16·5
18. Clapham	106,545	726,596	6·8	17,113	16·0
19. Wandsworth	140,311	976,547	6·9	24,201	17·2
Total B	*1,238,563*	*13,853,067*	*11·18*	*205,812*	*16·6*
C. COMPOSITE.					
20. Fulham	113,781	588,666	5·1	18,378	16·1
21. Hammersmith	104,199	590,678	5·6	17,208	16·5
22. North Hackney	77,038	556,043	7·2	13,695	17·8
23. South St. Pancras	56,183	426,458	7·6	7,514	13·3
24. East ,,	64,212	431,540	6·7	8,533	13·3
25. ,, Islington	89,952	534,281	5·9	12,440	13·8
26. North Paddington	70,689	480,573	6·8	9,409	13·3
27. ,, Kensington	85,373	513,754	6·0	12,788	14·9
Total C	*661,427*	*4,121,993*	*6·23*	*99,965*	*15·1*
D. INDUSTRIAL.					
28. Central Finsbury	66,202	395,715	5·9	10,024	15·1
29. South Hackney	102,458	360,197	3·5	13,319	13·0
30. Central ,,	67,033	357,051	5·3	9,616	14·3
31. North St. Pancras	60,862	298,789	4·9	7,504	12·3
32. West Islington	75,223	357,707	4·7	9,048	12·2
33. North ,,	98,273	519,063	5·3	13,000	13·2
34. South ,,	73,316	382,637	5·2	9,631	13·1
35. Whitechapel	78,676	435,198	5·5	10,956	13·9
36. Mile End	50,049	187,470	3·7	6,736	13·4

TABLE A *Contd*—*General Distribution by Population and Assessment.*

1 Division.	2 Population, 1896.	3 Rateable Value. 1896.	4 Rateable Value. Per Head.	5 Rated Householders. 1896.	6 Rated Householders. Per Cent. of Population.
D. INDUSTRIAL—*Contd.*		£	£		
37. Stepney	61,011	212,755	3·5	8,102	13·3
38. Bow and Bromley	90,654	325,513	3·6	12,777	14·1
39. Poplar	78,613	418,177	5·3	11,374	14·4
40. Limehouse	56,198	251,340	4·4	8,457	15·0
41. St. George's-in-the-East	49,613	249,485	5·0	6,455	13·0
42. North-east Bethnal Green	65,557	217,792	3·3	8,743	13·3
43. South-west Bethnal Green	63,605	234,582	3·7	10,103	15·9
44. Hoxton	65,693	462,501	7·0	10,461	15·9
45. Haggerston	56,665	225,262	3·9	7,793	13·7
46. Woolwich	106,477	527,780	4·9	16,253	15·2
47. Greenwich	84,429	484,798	5·7	13,488	15·9
48. Deptford	107,273	531,267	4·9	17,050	15·9
49. Rotherhithe	74,329	569,009	7·6	11,724	15·8
50. Bermondsey	84,452	372,023	4·4	12,800	15·1
51. West Southwark	64,447	550,266	8·5	10,836	16·8
52. North Camberwell	94,039	340,193	3·6	14,151	15·0
53. Peckham	88,242	391,367	4·4	14,048	15·9
54. West Newington	59,035	290,448	4·9	9,608	16·2
55. Walworth	61,904	205,288	3·3	8,638	13·9
56. North Lambeth	62,937	390,700	6·2	9,078	14·4
57. Kennington	77,709	364,570	4·7	11,412	14·7
58. Battersea	105,523	457,390	4·3	15,785	14·9
Total D	*2,330,497*	*10,366,333*	*4·45*	*338,970*	*14·5*
Total, *without City*	4,401,935	31,601,042	7·18	683,434	15·5
Grand total	4,433,018	36,082,902	8·14	712,907	16·0

TABLE B.—*Exercise of Franchise.*

Division.	General Elections. Percentage of Electorate Voting in 1892.	General Elections. Percentage of Electorate Voting in 1895.	County Council Elections. Percentage of Electorate Voting in 1895.	County Council Elections. Percentage of Electorate Voting in 1898.	Percentage Variation in 1898 from 1895 in Total Electorate.	Percentage Variation in 1898 from 1895 in Electors Voting.
A. COMMERCIAL.						
1. City	35·7*	**	32·3	32·5	+ 1·6	+ 2·2
2. Strand	*	*	37·7	40·5	+ 0·7	+ 8·2
3. Holborn	60·6	*	38·9	33·6	— *0·5*	— *14·0*
4. East Finsbury	73·6	70·7	53·2	56·8	+ 0·9	+ 7·8
Total A	....	....	37·3	36·9	+ 0·9	+ 0·2

TABLE B *Contd.—Exercise of Franchise.*

Division.	General Elections. Percentage of Electorate Voting in		County Council Elections. Percentage of Electorate Voting in		Percentage Variation in 1898 from 1895 in	
	1892.	1895.	1895.	1898.	Total Electorate.	Electors Voting.
B. RESIDENTIAL.						
5. St. George's Hanover Square	*	*	42·1	39·9	+ 2·5	− 2·8
6. Westminster	68·5	*	42·6	37·5	− 0·3	− 12·2
7. East Marylebone	71·6	68·1	47·8	45·6	− 2·6	− 7·0
8. West „	66·9	69·9	49·8	49·4	+ 5·3	+ 4·4
9. South Paddington	*	*	41·2	43·5	+ 8·6	+ 14·7
10. „ Kensington	*	*	39·0	34·4	+ 3·9	− 8·1
11. Chelsea	74·8	68·0	51·1	57·3	− 2·4	+ 9·3
12. West St. Pancras	76·4	74·5	55·1	61·6	+ 3·8	+ 16·1
13. Hampstead	73·5	*	39·1	42·0	+ 4·6	+ 12·5
14. Lewisham	69·3	*	48·2	46·4	+12·1	+ 8·1
15. Dulwich and Penge	73·2	62·1	45·9	45·8	+ 5·4	+ 5·3
16. Norwood	75·7	*	56·1	51·5	+11·5	+ 2·4
17. Brixton	74·2	62·3	51·6	48·9	+ 4·3	− 1·1
18. Clapham	79·9	70·8	55·4	56·8	+13·3	+ 16·0
19. Wandsworth	64·3	57·0	51·9	49·8	+12·11	+ 7·6
Total B	....	....	48·3	47·9	+ 6·1	+ 5·1
C. COMPOSITE.						
20. Fulham	75·6	74·5	52·8	54·4	+21·8	+ 25·4
21. Hammersmith	70·2	66·7	47·6	52·8	+ 8·3	+ 20·1
22. North Hackney	80·3	62·7	54·2	54·9	+ 9·8	+ 11·2
23. South St. Pancras	73·7	65·9	59·8	37·1	+13·4	− 29·6
24. East „	72·7	70·6	58·8	60·9	+ 6·8	+ 10·6
25. „ Islington	74·0	74·0	54·0	50·8	+ 5·5	− 0·5
26. North Paddington	76·1	68·1	48·8	48·4	+18·3	+ 17·1
27. „ Kensington	75·3	71·2	45·6	45·2	+ 4·7	+ 3·8
Total C	....	....	52·1	51·4	+11·2	+ 9·5
D. INDUSTRIAL.						
28. Central Finsbury	71·1	71·5	57·0	51·4	+ 4·3	− 5·7
29. South Hackney	70·0	73·2	51·6	49·9	+ 4·8	+ 1·4
30. Central Hackney	74·5	70·6	56·7	64·5	+ 5·8	+ 20·4
31. North St. Pancras	77·5	75·7	57·2	62·4	+ 6·3	+ 15·8
32. West Islington	72·2	72·9	45·6	49·9	+ 4·8	+ 14·7
33. North „	75·1	73·5	60·8	55·8	+11·3	+ 2·0
34. South „	67·4	71·6	45·2	55·1	+ 9·1	+ 32·9
35. Whitechapel	71·0	68·0	49·9	53·6	− 6·9	....
36. Mile End	72·0	70·2	55·5	56·6	+ 6·7	+ 8·8
37. Stepney	74·0	69·8	58·1	57·8	+ 7·9	+ 7·5
38. Bow and Bromley	72·2	71·0	52·7	47·9	+ 5·6	− 4·0
39. Poplar	77·1	72·8	55·9	51·7	+ 4·3	− 3·4
40. Limehouse	74·0	75·1	55·9	58·7	+11·1	+ 16·7
41. St. George's-in-the-East	78·0	82·7	70·7	71·8	+ 2·6	+ 4·1
42. N.E. Bethnal Green	71·9	67·6	38·9	55·4	+ 3·4	+ 47·3

TABLE B *Contd.—Exercise of Franchise.*

Division.	General Elections.		County Council Elections.			
	Percentage of Electorate Voting in		Percentage of Electorate Voting in		Percentage Variation in 1898 from 1895 in	
	1892.	1895.	1895.	1898.	Total Electorate.	Electors Voting.
D. INDUSTRIAL—*Contd.*						
43. S.W. Bethnal Green	68·7	62·7	31·0	47·6	+ 2·8	+ 57·6
44. Hoxton	69·1	66·6	39·1	46·2	− *2·3*	+ 15·4
45. Haggerston	65·5	67·5	43·6	43·9	+ 4·8	+ 5·6
46. Woolwich	81·7	78·7	56·4	65·5	+ 7·7	+ 25·1
47. Greenwich	78·7	76·7	62·0	62·8	+ 8·9	+ 10·2
48. Deptford	76·7	72·9	52·0	51·2	+ 10·7	+ 9·1
49. Rotherhithe	70·1	69·0	53·0	54·5	+ 1·3	+ 4·1
50. Bermondsey	75·9	73·2	45·3	46·9	+ 8·8	+ 12·7
51. West Southwark	68·2	72·2	53·3	45·4	+ 1·8	− *13·3*
52. North Camberwell	69·5	66·5	42·6	43·8	+ 4·5	+ 7·4
53. Peckham	70·0	69·9	48·0	48·4	+ 3·6	+ 4·5
54. West Newington	75·8	75·1	51·1	50·1	+ 6·4	+ 4·1
55. Walworth	69·6	71·3	47·2	45·7	+ 4·6	+ 1·4
56. North Lambeth	68·0	73·0	44·7	42·1	+ 5·2	− *0·9*
57. Kennington	76·1	71·8	50·8	53·2	+ 5·9	+ 10·9
58. Battersea	78·2	75·9	57·2	68·7	+ 6·7	+ 27·9
Total D	....	....	51·2	53·4	+ 5·5	+ 10·2
Total, *without City*	....	....	50·0	50·8	+ 6·2	+ 8·1
Grand total	70·0	68·0	49·1	50·1	+ 6·0	+ 7·9

TABLE C.—*Distribution by Party.*

Division.	1895.					1898.				
	Votes Recorded.			Representation.		Votes Recorded.			Representation.	
	Total.	Moderate.	Progressive.	Moderate.	Progressive.	Total.	Moderate.	Progressive.	Moderate.	Progressive.
1. City	31,523	23,950	7,573	4	—	28,047	23,238	4,809	4	—
2. Strand	7,821	5,422	2,399	2	—	8,387*	5,040	3,020	2	—
3. Holborn	9,869	6,517	3,352	2	—	7,453	6,128	1,325	2	—
4. East Finsbury	6,403	2,811	3,592	—	2	6,881	2,729	4,152	—	2
Total A	55,616	38,700	16,916	8	2	50,768	37,135	13,306	8	2
5. St. George's Hanover Square	7,327	6,060	1,267	2	—	8,299	6,229	2,070	2	—
6. Westminster	5,625	4,374	1,251	2	—	5,191	4,402	789	2	—
7. East Marylebone	7,198	4,278	2,920	2	—	7,206	4,271	2,935	2	—
8. West ,,	9,648	4,908	4,740	2	—	9,970	5,927	4,043	2	—
9. South Paddington	4,352	3,859	493	2	—	5,570	4,336	1,234	2	—
10. ,, Kensington	7,642	6,227	1,415	2	—	7,421	6,134	1,287	2	—
11. Chelsea	13,348*	6,779	6,351	1	1	14,707	6,988	7,719	—	2

* The votes recorded for other than Party candidates are included in the total.

TABLE C *Contd.—Distribution by Party.*

Division.	1895. Votes Recorded. Total.	Moderate.	Progressive.	1895. Representation. Moderate.	Progressive.	1898. Votes Recorded. Total.	Moderate.	Progressive.	1898. Representation. Moderate.	Progressive.
12. West St. Pancras	7,484	3,471	4,013	—	2	8,659	4,019	4,640	—	2
13. Hampstead	6,168	4,721	1,447	2	—	8,372	4,621	3,751	2	—
14. Lewisham	13,156	7,622	5,534	2	—	14,144	8,086	6,058	2	—
15. Dulwich, &c.	11,768	6,867	4,901	2	—	12,279	7,371	4,908	2	—
16. Norwood	11,921	6,476	5,445	2	—	12,292	6,727	5,565	2	—
17. Brixton	10,645	6,224	4,421	2	—	10,469	5,807	4,662	2	—
18. Clapham	14,962	8,363	6,599	2	—	17,313	9,542	7,771	2	—
19. Wandsworth	14,920	10,430	4,490	2	—	20,408	11,871	8,537	2	—
Total B	146,164	90,659	55,287	27	3	162,300	96,331	65,969	26	4
20. Fulham	13,494	6,526	6,968	—	2	16,992	8,901	8,091	2	—
21. Hammersmith	12,115	6,785	5,330	2	—	14,650	8,289	6,361	2	—
22. North Hackney	11,968	6,093	5,875	2	—	12,909*	5,781	5,349	1	1
23. South St. Pancras	6,782	3,325	3,457	1	1	4,360*	1,830	2,036	1	1
24. East ,,	8,041*	3,729	4,229	1	1	8,966	3,273	5,693	—	2
25. ,, Islington	10,712	5,058	5,654	—	2	10,533	4,801	5,732	—	2
26. North Paddington	6,797	3,709	3,088	2	—	7,888	4,230	3,658	2	—
27. ,, Kensington	8,738*	4,730	3,861	2	—	9,086	4,612	4,474	2	—
Total C	78,647	39,955	38,462	10	6	85,384	41,717	41,394	10	6
28. Central Finsbury	8,849	4,361	4,488	—	2	9,314*	4,678	4,254	2	—
29. South Hackney	11,738*	5,093	6,556	—	2	11,849*	4,936	6,534	—	2
30. Central ,,	9,115	4,193	4,922	—	2	10,947	4,660	6,287	—	2
31. North St. Pancras	5,166*	1,807	1,788	1	1	8,263*	3,608	4,446	—	2
32. West Islington	7,661*	2,905	4,498	—	2	7,609	2,793	4,817	—	2
33. North ,,	12,208	5,931	6,277	—	2	12,434	5,681	6,753	—	2
34. South ,,	4,770*	886	3,534	—	2	6,092	1,543	4,549	—	2
35. Whitechapel	6,100*	2,499	2,201	1	1	5,007	1,322	3,685	—	2
36. Mile End	5,972	3,180	2,792	2	—	6,407	3,027	3,380	—	2
37. Stepney	6,590	3,163	3,427	—	2	6,992	3,182	3,810	—	2
38. Bow and Bromley	10,684	4,859	5,825	—	2	10,204	4,104	6,100	—	2
39. Poplar	8,323	2,427	5,896	—	2	8,527	1,585	6,942	—	2
40. Limehouse	6,778	3,201	3,493	—	2	7,757	3,279	4,478	—	2
41. St. George's-in-the-East	5,228	2,788	2,440	2	—	5,427	2,459	2,968	—	2
42. North-east Bethnal Green	5,759	2,109	3,650	—	2	8,523	3,210	5,313	—	2
43. South-west Bethnal Green	5,263	1,745	3,518	—	2	7,255*	2,711	4,430	—	2
44. Hoxton	6,431	2,355	4,076	—	2	7,448	3,112	4,336	—	2
45. Haggerston	5,513	2,232	3,281	—	2	5,828	1,701	4,127	—	2
46. Woolwich	11,817	8,647	3,170	2	—	18,195	9,794	8,401	2	—
47. Greenwich	13,011*	6,506	6,114	2	—	14,220*	6,384	7,147	—	2
48. Deptford	13,128*	5,185	6,688	1	1	15,316*	6,084	8,999	—	2
49. Rotherhithe	9,825	5,104	4,721	2	—	10,199	4,771	5,428	—	2
50. Bermondsey	8,812	3,350	5,462	—	2	9,841	4,021	5,820	—	2
51. West Southwark	8,655	3,844	4,811	—	2	7,547	2,394	5,153	—	2
52. North Camberwell	7,933	1,804	6,129	—	2	10,402	3,607	6,795	—	2
53. Peckham	11,014	4,864	6,150	—	2	11,338*	5,020	6,050	—	2
54. West Newington	7,902	3,035	4,867	—	2	8,182*	2,751	5,237	—	2
55. Walworth	6,879	2,804	4,075	—	2	6,929	2,591	4,338	—	2
56. North Lambeth	6,190	2,548	3,642	—	2	5,730	2,324	3,406	—	2
57. Kennington	9,352	4,598	4,754	1	1	10,398*	4,997	5,333	—	2
58. Battersea	13,901	5,866	8,035	—	2	17,795	7,385	10,410	—	2
Total D	260,567	113,889	141,280	14	48	291,975	119,773	169,726	4	58
Total *without City*	509,477*	259,253	243,372	55	59	562,380*	271,718	285,686	44	70
Grand total	540,991*	283,203	251,915	59	59	590,427*	294,956	290,395	48	70

* The votes recorded for other than Party candidates are included in the total.

TABLE D—*Proportional Statement of Voting.*

Division.	Variation per Cent. in 1898 from 1895.				Percentage Majorities.			
	Electors Voting.[a]	Votes Recorded.			1895.		1898.	
		Total.	Moderate.	Progressive.	Moderate.	Progressive.	Moderate.	Progressive.
A. COMMERCIAL.								
1. City	+ 2·2	− 11·0	− 3·0	− 36·5[b]	316·2	....	483·2	....
2. Strand	+ 8·2	+ 7·2[c]	− 7·0	+ 25·8	126·0	....	66·8	....
3. Holborn	− 14·0	− 24·4	− 6·0	− 60·4[d]	94·4	....	362·5	....
4. East Finsbury	+ 7·8	+ 7·4	− 2·9	+ 15·6	....	27·7	....	52·1
Total A	+ 0·2	− 8·7	− 4·0	− 21·3	128·8	....	179·1	....
B. RESIDENTIAL.								
5. St. George's Hanover Square	− 2·8	+ 13·2	+ 2·7	+ 63·3[e]	378·2	....	200·9	....
6. Westminster	− 12·2	− 7·7	+ 0·6	− 36·9[de]	249·6	....	457·9	....
7. East Marylebone	− 7·0	+ 0·1	− 0·1	+ 0·5	46·5	....	45·5	....
8. West „	+ 4·4	+ 3·3	+ 20·7	− 14·7	3·5	....	46·6	....
9. South Paddington	+ 14·7	+ 27·9	+ 12·3	+ 150·3[e]	682·7	....	251·3	....
10. „ Kensington	− 8·1	− 2·9[c]	− 1·5	− 24·9	263·0	....	376·6	....
11. Chelsea	+ 9·3	+ 10·1	+ 3·1	+ 21·5	6·7	....	....	10·4
12. West St. Pancras	+ 16·1	+ 15·7	+ 15·7	+ 15·6	....	15·6	....	15·4
13. Hampstead	+ 12·5	+ 35·7	− 2·1	+ 159·2[e]	226·2	....	23·2	....
14. Lewisham	+ 8·1	+ 7·5	+ 6·1	+ 9·4	37·7	....	33·4	....
15. Dulwich	+ 5·3	+ 4·3	+ 7·3	+ 0·1	40·1	....	50·1	....
16. Norwood	+ 2·4	+ 3·1	+ 3·8	+ 2·2	18·9	....	20·8	....
17. Brixton	− 1·1	− 1·6	− 6·7	+ 5·4	40·7	....	24·5	....
18. Clapham	+ 16·0	+ 15·7	+ 14·1	+ 17·7	26·7	....	22·7	....
19. Wandsworth	+ 7·6	+ 36·7	+ 13·8	+ 90·1[e]	132·3	....	39·0	....
Total B	+ 5·1	+ 11·0	+ 6·2	+ 19·3	63·9	....	46·0	....
C. COMPOSITE.								
20. Fulham	+ 25·4	+ 25·9	+ 36·4	+ 16·1	....	6·7	10·0	....
21. Hammersmith	+ 20·1	+ 20·9	+ 22·1	+ 19·3	27·3	....	30·3	....
22. North Hackney	+ 11·2	+ 7·8[c]	− 5·1	− 8·9	3·7	....	8·1	....
23. South St. Pancras	− 29·6	− 35·7[c]	− 44·9[d]	− 41·1[d]	....	3·9	....	11·2
24. East „	+ 10·6	+ 11·5[c]	− 12·2	+ 34·6	....	13·4	....	73·9
25. „ Islington	− 0·5	− 1·6	− 5·0	+ 1·4	....	11·7	....	19·4
26. North Paddington	+ 17·1	+ 16·0	+ 14·0	+ 18·4	20·1	....	15·6	....
27. „ Kensington	+ 3·8	+ 4·0[c]	− 2·4	+ 15·8	22·5	....	3·1	....
Total C	+ 9·5	+ 8·6	+ 4·4	+ 7·6	3·9	....	0·7	....
D. INDUSTRIAL.								
28. Central Finsbury	− 5·7	+ 5·2	+ 7·2	− 5·2	....	2·9	9·9	....
29. South Hackney	+ 1·4	+ 0·9[c]	− 3·1	− 0·3	....	28·7	....	32·3
30. Central „	+ 20·4	+ 20·1	+ 11·1	+ 27·7	....	17·3	....	34·9
31. North St. Pancras	+ 15·8	+ 59·9[c]	+ 99·6[e]	+ 148·6[e]	1·1	....	....	23·2
32. West Islington	+ 14·7	− 0·6[c]	− 3·9	+ 7·1	....	54·8	....	72·5
33. North „	+ 2·0	+ 1·8	− 4·2	+ 7·5	....	5·8	....	18·8

[a] Reproduced from Table B for comparison. [b] Two seats uncontested in 1898.
[c] Triangular contest in 1895 or 1898.
[d] One seat uncontested in 1898. [e] One seat uncontested in 1895.

TABLE D *Contd.—Proportional Statement of Voting.*

Division.	Variation per Cent. in 1898 from 1895.				Percentage Majorities.			
	Electors Voting.[a]	Votes Recorded.			1895.		1898.	
		Total.	Moderate.	Progressive.	Moderate.	Progressive	Moderate.	Progressive.
D. INDUSTRIAL—*Contd.*								
34. South Islington	+ 32·9	+ 27·7[c]	+ 74·1[de]	+ 28·7	....	298·8	....	194·8
35. Whitechapel	....	− 17·9[c]	− 47·4[d]	+ 67·4	13·5	....	....	178·7
36. Mile End.....	+ 8·8	+ 7·3	− 4·8	+ 21·0	13·8	....	....	11·6
37. Stepney	+ 7·5	+ 6·1	+ 0·6	+ 11·1	....	8·3	....	19·7
38. Bow and Bromley	− 4·0	− 4·5	− 15·5	+ 4·7	....	19·8	....	48·6
39. Poplar	− 3·4	+ 2·4	− 34·6[de]	+ 17·7	....	142·9	....	337·9
40. Limehouse	+ 16·7	+ 14·4[c]	+ 2·4	+ 28·2	....	9·1	....	36·5
41. St. George's-in-East	+ 4·1	+ 3·8	− 11·8	+ 21·6	14·2	....	....	21·0
42. N.E. Bethnal Green	+ 47·3	+ 48·0	+ 52·2	+ 45·5	....	73·0	....	65·5
43. S.W. Bethnal Green	+ 57·6	+ 37·8	+ 58·8	+ 25·9	....	101·6	....	59·8
44. Hoxton	+ 15·4	+ 15·8	+ 32·1	+ 6·3	....	73·1	....	39·3
45. Hagerston	+ 5·6	+ 5·7	− 23·7	+ 25·7	....	47·0	....	142·6
46. Woolwich	+ 25·1	+ 53·9	+ 13·2	+ 165·0[e]	172·7	....	16·5	....
47. Greenwich	+ 10·2	+ 9·3[c]	− 6·8	+ 16·9	6·4	....	....	11·9
48. Deptford	+ 9·1	+ 16·6[c]	+ 17·3	+ 34·5	....	29·0	....	47·9
49. Rotherhithe	+ 4·1	+ 3·8	− 6·5	+ 14·9	8·1	....	....	13·7
50. Bermondsey	+ 12·7	+ 11·6	+ 20·0	+ 6·5	....	63·0	....	44·7
51. West Southwark....	− 13·3	− 12·8	− 37·7	+ 7·1	....	25·1	....	115·2
52. North Camberwell	+ 7·4	+ 31·1	+ 100·0[e]	+ 10·8	....	239·7	....	88·3
53. Peckham	+ 4·5	+ 2·9	+ 3·2	− 1·6	....	26·4	....	20·5
54. West Newington....	+ 4·1	+ 3·5	− 9·3	+ 7·6	....	60·3	....	90·3
55. Walworth	+ 1·4	+ 0·7	− 7·6	+ 6·4	....	45·3	....	67·4
56. North Lambeth	− 0·9	− 7·4	− 8·7	− 6·4	....	42·9	....	46·5
57. Kennington.....	+ 10·9	+ 10·4	+ 8·6	+ 12·1	....	3·4	....	6·7
58. Battersea.....	+ 27·9	+ 28·0	+ 25·9	+ 29·5	....	36·9	....	40·9
Total D	+ 10·2	+ 12·0	+ 5·1	+ 20·1	....	24·0	....	41·7
Total, without City...	+ 8·1	+ 10·3	+ 4·8	+ 17·4	6·5	....	....	5·1
Grand total	+ 7·9	+ 9·1	+ 4·1	+ 15·2	12·4	....	1·5	....

[a] Reproduced from Table B for comparison. [b] Two seats uncontested in 1898.
[c] Triangular contest in 1895 or 1898.
[d] One seat uncontested in 1898. [e] One seat uncontested in 1895.

TABLE E.—*Distribution of Party Votes.*

Division.*	Percentage of Votes obtained by the First Candidate on the Total for each Party.			
	1895.		1898.	
	Moderate.	Progressive.	Moderate.	Progressive.
A. COMMERCIAL.				
City*	—	—	—	—
Strand	50·2	50·7	53·5	55·1
Holborn	50·05	50·2	50·8	—
East Finsbury	50·05	50·2	50·9	50·9
B. RESIDENTIAL.				
St. George's Hanover Square	50·3	—	50·4	50·1
Westminster	50·8	—	50·2	—
East Marylebone	50·4	51·7	51·0	51·6
West ,,	50·3	50·4	51·2	50·1
South Paddington	50·8	—	50·5	50·6
South Kensington	50·3	61·6	50·1	50·3
Chelsea	50·7	52·8	52·5	52·3
West St. Pancras	50·2	50·3	50·1	51·8
Hampstead	51·6	—	50·7	50·1
Lewisham	50·1	50·7	50·2	50·1
Dulwich	50·1	50·2	50·1	50·1
Norwood	50·1	50·5	50·1	50·0
Brixton	50·6	50·3	50·7	50·1
Clapham	50·1	50·1	50·1	50·5
Wandsworth	50·6	—	53·7	53·6
C. COMPOSITE.				
Fulham	50·1	50·3	50·4	50·1
Hammersmith	50·5	50·3	50·2	50·2
North Hackney	51·4	50·1	60·6	52·0
South St. Pancras	52·6	51·3	—	—
East ,,	52·7	54·0	51·8	51·8
East Islington	50·2	50·6	51·9	52·6
North Paddington	50·4	51·3	50·6	50·3
North Kensington	50·4	51·0	50·2	50·6
D. INDUSTRIAL.				
Central Finsbury	50·8	50·1	51·1	53·2
South Hackney	52·4	50·5	50·3	51·4
Central ,,	51·3	50·2	50·8	50·3
North St. Pancras	—	—	55·4	52·5
West Islington	51·0	50·8	51·2	50·9
North ,,	50·4	50·2	50 7	52·2
South ,,	—	53·8	—	52·2
Whitechapel	55·0	52·9	—	52·0
Mile End	50·8	50·4	50·7	50·6
Stepney	50·4	51·4	51·7	51·3
Bow and Bromley	50·6	50·1	51·4	50·5
Poplar	—	51·7	—	52·3
Limehouse	53·0	50·8	52·6	52·1
St. George's-in-the-East	52·1	51·6	50·1	50·8

* For the sake of uniformity, the two-member constituencies only have been included.

TABLE E *Contd.—Distribution of Party Votes.*

Division.*	Percentage of Votes obtained by the First Candidate on the Total for each Party.			
	1895.		1898.	
	Moderate.	Progressive.	Moderate.	Progressive.
North-east Bethnal Green	50·2	50·1	50·1	51·4
South-west ,,	50·4	50·2	50·4	51·3
Hoxton	50·5	50·2	50·3	50·2
Haggerston	50·6	51·3	50·6	50·1
Woolwich	52·8	—	52·4	51·9
Greenwich	50·1	51·2	50·0	54·5
Deptford	51·4	54·0	52·8	50·1
Rotherhithe	51·5	51·2	50·8	51·1
Bermondsey	50·2	50·5	50·4	51·1
West Southwark	51·6	50·6	50·1	50·0
North Camberwell	—	50·05	50·8	51·1
Peckham	50·3	50·2	53·06	52·9
West Newington	50·0	50·1	50·2	50·3
Walworth	50·3	50·1	50·1	50·1
North Lambeth	50·1	50·1	53·8	54·2
Kennington	50·8	50·1	50·5	50·1
Battersea	50·2	50·9	50·3	50·7
Total contested	50·8	51·2	51·3	51·3

* For the sake of uniformity, the two-member constituencies only have been included.

III.—*Increased Mortality from Cancer.*

THE *Lancet* publishes a summary of the researches of Mr. W. Roger Williams, F.R.C.S., on this very important subject. In publishing his figures Mr. Williams remarks that year after year the Registrar-General's reports keep on repeating that the cancer death-rate is the "highest on record," and this has been going on continually for more than half a century. Yet, so far as can be seen, no effect has been produced on the great mass of professional and lay opinion by these constantly reiterated warnings. We often hear of efforts being made to stay the progress of diseases like typhoid fever, small-pox, and tuberculosis—all of which are, and for many years have been, steadily declining; so that in the future we need only improve a little on what we have done in the past to ensure their eventual extinction. But with regard to cancer the case is very different, for the conditions of life are such, that if no effort is made to check the progress of this disease it will ere long be as lethal as all the above-mentioned maladies combined. That this is no imaginative statement the subjoined

table shows. Yet there can be no hesitation in declaring the belief that there need be no more difficulty in mitigating the prevalence of cancer—and perhaps even in eventually extinguishing the disease altogether—than there is in the case of the maladies mentioned above. The tendency to cancer may be increased by unsuitable modes of living, and *vice versâ*. We must therefore seek out those conditions which favour its development; and by avoiding them we shall be able to effect our object. It is only by progress along such lines that the cure of cancer is ever likely to be effected.

In this connection such influences as are comprised under the terms alimentation and domestication seem to be of paramount importance. Probably no single factor is more potent in determining the outbreak of cancer in the predisposed than high feeding. There can be no doubt that the greed for food manifested by modern communities is altogether out of proportion to their present requirements. Many indications point to the gluttonous consumption of meat which is such a characteristic feature of the age as likely to be especially harmful in this respect. Statistics show that the consumption of meat has for many years been increasing by leaps and bounds, till it has now reached the amazing total of 131 lb. per head per year, which is more than double what it was half a century ago, when the conditions of life were more compatible with high feeding. When excessive quantities of such highly stimulating forms of nutriment are ingested by persons whose cellular metabolism is defective, it seems probable that there may thus be excited in those parts of the body where vital processes are still active, such excessive and disorderly cellular proliferation as may eventuate in cancer. No doubt other factors co-operate, and among these might be especially named deficient exercise, and probably, also, deficiency also in fresh vegetable food.

In 1840 cancer caused 2,786 deaths, the proportion being 1 in 5,646 of the total population and 1 in 129 of the total mortality, or 177 per million living. In 1896 the deaths due to it numbered 23,521, or 1 in 1,306 of the total population and 1 in 22 of the total mortality, or 764 per million living. Thus the proportionate mortality from cancer now is four and a half times greater than it was half a century ago. In this respect its position is unique, for no other disease can show anything like such an immense increase.

Mr. Williams has compiled the table on the following page.

Mere increase of population will not account for this continuously progressive augmentation of the cancer death-rate, as is evident from the fact that its rate of increase has proportionally been much in excess of this, and there is far too much uniformity in the variations of the increments of increase in the long succession of years to warrant its being ascribed to improved diagnosis or other casual error. Moreover, the increase has not been confined to one or a few parts of the body, but it has involved them all—on the whole without any considerable disturbance of the normal proportionate localisation ratios.

TABLE 1.—*Showing the prevalence of Cancer and its Increase in England and Wales since* 1840.

Year.	Total Population.	Total Deaths.	Cancer Deaths.	Cancer Death-Rate per Million Living.	Proportion to Population.	Proportion to Total Deaths.
1840....	15,730,813	359,687	2,786	177	1 to 5,646	1 to 129
'50....	17,773,324	368,995	4,966	279	1 ,, 3,579	1 ,, 74
'55....	18,829,000	426,646	6,016	319	1 ,, 3,129	1 ,, 70
'60....	19,902,713	422,721	6,827	343	1 ,, 2,915	1 ,, 62
'65....	21,145,151	490,909	7,922	372	1 ,, 2,670	1 ,, 62
'70....	22,501,316	515,329	9,530	424	1 ,, 2,361	1 ,, 54
'75....	24,045,385	546,453	11,336	471	1 ,, 2,121	1 ,, 48
'80....	25,714,288	528,624	13,210	502	1 ,, 1,946	1 ,, 40
'81....	25,974,439	491,937	13,542	520	1 ,, 1,918	1 ,, 36
'82....	26,413,861	516,654	14,057	532	1 ,, 1,879	1 ,, 36
'83....	26,770,744	522,997	14,614	546	1 ,, 1,763	1 ,, 35
'84....	27,132,449	530,828	16,192	559	1 ,, 1,786	1 ,, 35
'85....	27,499,041	522,750	15,560	566	1 ,, 1,767	1 ,, 33
'86....	27,870,586	537,276	16,243	583	1 ,, 1,715	1 ,, 33
'87....	28,247,151	530,758	17,113	606	1 ,, 1,650	1 ,, 31
'88....	28,628,804	510,971	17,506	610	1 ,, 1,635	1 ,, 29
'89....	29,015,613	518,353	18,654	643	1 ,, 1,555	1 ,, 27
'90....	28,762,287	562,248	19,433	676	1 ,, 1,480	1 ,, 28
'91....	29,081,047	587,925	20,117	692	1 ,, 1,445	1 ,, 29
'92....	29,405,054	559,684	20,353	690	1 ,, 1,445	1 ,, 27
'93....	29,731,100	569,958	21,135	711	1 ,, 1,407	1 ,, 27
'94....	30,060,763	498,827	21,422	713	1 ,, 1,403	1 ,, 23
'95....	30,383,047	568,997	22,945	755	1 ,, 1,324	1 ,, 24
'96....	30,717,355	526,722	23,521	764	1 ,, 1,306	1 ,, 22

The attempt to explain the increasing cancer mortality as due to the average age of the population having advanced, and the consequent liability of greater numbers to cancer will not bear critical examination, for the saving of life in modern times has been mainly confined to early years. The death-rates of males over 35 years and of females over 45 years have either remained stationary or increased, while the number of those who attain old age has decreased. This heavy mortality at post-meridian ages is no doubt largely due to the survival in augmented numbers of weakly lives artificially prolonged by improved conditions of existence, but not more than a small fraction of the increased cancer mortality can be thus accounted for. Besides, it is a mistake to assume that increased cancer mortality is a necessary corollary of the survival of augmented numbers to the cancer age; for instance, the average age of the population of Ireland is much higher than that of the population of either England or Scotland, owing to the large number of elderly people left behind after the younger ones have emigrated, yet the cancer mortality of Ireland is much less than that of either England or Scotland. In most civilised countries where statistical records have been kept similar increases, although less pronounced, have been observed.

A remarkable fact about the increasing cancer mortality is that

it has affected males to a much greater extent than females. The following table illustrates this :—

TABLE 2.—*Showing the relative Increase of Cancer among Males and Females.*

Period.	Cancer Death-Rate.		Sex Ratio.
	Male.	Female.	
1851–60	195	434	1 to 2·2
'61–70	244	523	1 „ 2·1
'71–80	315	622	1 „ 1·9
'81–90	430	739	1 „ 1·7
'91–95	547	868	1 „ 1·6
'96.....	618	901	1 „ 1·4

Thus while the cancer mortality for males from 1851 to 1890 has increased 167 per cent., the increase for females has been but 91 per cent. It seems probable that this undue incidence of the increasing cancer mortality in males may be ascribed to the fact that of late, as the result of urbanisation, the conditions of life for men have come to resemble more closely those for women than heretofore. Excess of food, with want of proper exercise and changed surroundings, are, probably, its chief causative agents.

Mr. Roger Williams might, with advantage to the public, carry his examination of the statistics somewhat further. For example, it might be valuable—since the increased mortality in the case of males is so marked—to examine the occupations of the victims, and to note the localities in which fatal cases are most prevalent. He might then be able to test the strength of his own theory as to the influence of urban life and of high living on the population. Possibly, too, he might ascertain from a consideration of the statistics relating to the northern Scotch counties, whether the belief that a preponderance of fish in the diet creates a tendency towards cancer is sound. The subject is certainly one which demands further attention.

In connection with Mr. Williams's researches, we may call attention to a remark of Dr. William Ogle in his letter prefixed to the supplement to the Forty-fifth Annual Report of the Registrar-General of Births, Marriages, and Deaths in England. Commenting on the fact that the proportional increase of deaths attributed to cancer had been much greater amongst males than females of recent years, he says, "were not the rise not merely apparent but real, being due to general physical deterioration of the people or other similar causes, there would seem no reason why the male sex should have suffered more than the female; whereas the difference is readily intelligible on the hypothesis that the rise has been in a great measure only apparent, and due to better diagnosis. For the cancerous affections of males are in a much larger proportion internal or inaccessible than are those of females, and consequently are more difficult of recognition, so that any improvement

in medical diagnosis would add more to the male than to the female reckoning." This was written in 1885. Ten years later his successor wrote on the Faulty Certification of Causes of Death, and remarked that, "from the year 1887 to the end of the decennium inquiries were made as to 2,946 deaths which had been referred to as 'tumour,' without specification as to its nature; of these deaths 1,426 came eventually to be classed with cancer, 92 with venereal disease, 36 with tuberculosis, 103 with uterine diseases, and 952 with other definite causes; whilst with respect to the 337 remaining deaths, the exact nature of the tumour was unknown." This last quoted extract seems to indicate in some degree the extent to which the reported causes of death have been misleading in quite recent periods, and to give some ground for the suggestion that in earlier years, when diagnosis was less understood and the value of accurate statement in these matters less appreciated, there may have been many deaths really due to cancer which have been set down to other causes.

IV.—*Agricultural Returns of Great Britain*, 1898.

The following preliminary statement of the extent of the various crops and the number of live stock in Great Britain for the current year has been issued by the Board of Agriculture. The tables are compiled from the returns collected on the 4th June, and comparisons with previous years are also included:—

Crops and Live Stock.	1898.	1897.	1896.	1895.
	Acres.	Acres.	Acres.	Acres.
Wheat	2,102,220	1,889,161	1,693,957	1,417,483
Barley	1,903,652	2,035,790	2,104,764	2,166,279
Oats	2,917,770	3,036,056	3,095,488	3,296,063
Potatoes	524,591	504,914	563,741	541,217
Hay from clover & rotation grasses	2,381,551	2,285,965	2,171,966	2,303,431
,, permanent pasture	4,536,425	4,509,785	4,637,923	4,760,074
Hops	49,735	50,863	54,217	58,940
	No.	No.	No.	No.
Cows and heifers in milk or in calf	2,587,190	2,532,379	2,511,675	2,485,820
Other cattle—2 years and above	1,381,595	1,323,230	1,365,057	1,431,525
,, 1 year and under 2	1,345,844	1,360,741	1,306,313	1,190,368
,, Under 1 year	1,307,735	1,284,147	1,310,537	1,246,623
TOTAL OF CATTLE	6,622,364	6,500,497	6,493,582	6,354,336
Ewes kept for breeding	10,137,932	10,006,697	9,925,587	9,663,129
Other sheep—1 year and above	6,203,858	6,219,001	6,427,982	6,334,386
,, Under 1 year	10,401,404	10,114,742	10,351,760	9,794,680
TOTAL OF SHEEP	26,743,194	26,340,440	26,705,329	25,792,195
Sows kept for breeding	362,200	334,244	393,729	415,210
Other pigs	2,089,395	2,008,058	2,485,072	2,469,221
TOTAL OF PIGS	2,451,595	2,342,302	2,878,801	2,884,431

Comparisons with 1897 *and* 1896.

Crops and Live Stock.	1898 compared with 1897.				1898 compared with 1896.			
	Increase.		Decrease.		Increase.		Decrease.	
	Acres.	Per cnt.	Acres.	Per cnt.	Acres.	Per cnt.	Acres.	Per cnt.
Wheat	213,059	11·3	—	—	408,263	24·1	—	—
Barley	—	—	132,138	6·5	—	—	201,112	9·6
Oats	—	—	118,286	3·9	—	—	177,718	5·7
Potatoes	19,677	3·9	—	—	—	—	39,150	6·9
Hay from clover	95,586	4·2	—	—	209,585	9·6	—	—
,, pasture	26,640	0·6	—	—	—	—	101,498	2·2
Hops	—	—	1,128	2·2	—	—	4,482	8·3
	Number.	Per cnt.	Number.	Per cnt.	Number.	Per cnt.	Number.	Per cnt.
Cows	58,811	2·2	—	—	75,515	3·0	—	—
Other cattle—								
2 and above	58,365	4·4	—	—	16,538	1·2	—	—
1 and under 2	—	—	14,897	1·1	39,531	3·0	—	—
Under 1	23,588	1·8	—	—	—	—	2,802	0·2
Total Cattle	121,867	1·9	—	—	128,782	2·0	—	—
Ewes	131,235	1·3	—	—	212,345	2·1	—	—
Other sheep, 1 and above	—	—	15,143	0·2	—	—	224,124	3·5
,, under 1	286,662	2·8	—	—	49,644	0·5	—	—
Total Sheep	402,754	1·5	—	—	37,865	0·1	—	—
Sows	27,956	8·4	—	—	—	—	31,529	8·0
Other pigs	81,337	4·1	—	—	—	—	395,677	15·9
Total Pigs	109,293	4·7	—	—	—	—	427,206	14·8

V.—*Notes on Economical and Statistical Works.*

Statistics of Co-operative Societies in Various Countries. 330 pp., 4to. 10*s.* London, 1898.

The resolution of the International Co-operative Congress held at Paris in 1896, in favour of collecting and publishing the statistics of co-operative societies in all countries, has led to the preparation of the volume now issued, as a first step towards that desirable end. It is to be hoped that what the generosity of Count Chambrun has enabled to be done will not remain as an isolated attempt in this direction. Considerable as are the lists of co-operative societies now published, and valuable as is the information thus collected in respect to many of them, the very publication of these lists and this information serves to emphasise the incompleteness of the record. The desirability of obtaining from every co-operative society some account of its operations which may serve for combination with records of other societies, should be recognised by the responsible officers of such societies, who should be prepared to give a sufficient and a prompt reply to any future schedule of questions issued to them.

The volume itself, great as is the labour which it has entailed, might very usefully have comprised some summarised results of the information contained in it in instances where these are

lacking. For some countries summaries are given, but for others they are omitted, among the latter being the case of France, in which the summarised results would be of special interest, if obtainable. As in the case of distributive societies space has not sufficed to record any in the United Kingdom doing a smaller yearly business than 5,000*l.*, or doing less than 2,000*l.* elsewhere, the omission cannot be repaired by simply adding up the recorded figures for the individual societies.

In spite of the restriction just mentioned, the records for the United Kingdom occupy all but one-half of the volume, the second half being shared among Germany, Austria, Hungary, France, Italy, Belgium, Holland, Switzerland, and Norway. This list of countries shows that the international statistics are far from complete. In regard to credit societies, it is anticipated that a special volume on this head will be prepared, so that the information in the volume under review has been confined to summaries. The importance of the subject is so great that it is to be hoped that sufficient funds will be forthcoming to enable the work to be carried out. In the United Kingdom but nine credit societies have sent in returns, of which four were in Ireland, none in Scotland. It does not appear possible to compile, from the figures given in the volume, a comparative table showing approximately the extent of operations of co-operative societies in different countries. The following, which gives merely numbers of societies, may partly fill the gap, though without the numbers of members and extent of operations it is far from satisfactory. Even so far as it goes we do not feel sure that the figures given in it are really comparable, and we should have much preferred to have a table prepared by those who, in compiling the volume of returns, would have before them the information necessary to make figures really comparable, so far as possible. The date to which the figures refer is 1896:—

	Distributive Societies.	Productive Societies.	Credit Societies.
United Kingdom	1,453	259	9*
Germany	1,400	1,733	8,069
Austria—			
(*a.*) Members of the Union of Industrial and Co-operative Societies	150	16	125
(*b.*) Co-operative Societies on the Schulze-Delitzsch system	324	—	703
Hungary	—	—	350
France	147†	167	517
Italy	1,012	492	1,421
Belgium	79†	25	21
Holland	55	4	9*
Switzerland	65*	—	—
Norway	16*	—	—

* Separately enumerated in the return. So far as the lists are incomplete, these figures are defective.

† These are the numbers of the societies enumerated as having sales of not less than 2,000*l.* a year.

The incompleteness of even this modest attempt to institute an international comparison shows how much yet remains to be done.

One point of the returns which is particularly striking is that while dairying and farming societies are listed to the number of 6 only in England and Wales and 1 in Scotland, no less than 126 are given in the Irish list. Dairying societies are stated at 486 for Germany and 400 for Italy.

The figures given for some of the productive societies are worth noting. Not all of them give sufficient details to contribute to the following comparison, but where these are given they have been utilised :—

	Total Number of Societies in List.	Number giving the details which follow.	Members.		Employees.	
			Employed by Society.	Not Employed by Society.	Members.	Non-Members
Great Britain—						
Societies with individual members only	—	31	1,402	5,632	1,402	853
Societies which have as members other societies, besides individual members, whose numbers are	—	10	690	2,171	690	932
Total	148	41	2,092	7,803	2,092	1,785
France	108	98	1,852	2,209	1,852	1,831
Belgium	21	10	109	748	109	121

The large number of employed who are not members and of members who are not employed, especially the former, is striking. The extreme case is afforded by a Belgian Co-operative Productive Society employing 5 persons, none of whom were members, while none of its 300 members were, apparently, employed by the society. One may ask the question whether such a society should properly be included in a statement of co-operative activity in production. It is a little surprising, too, to find enumerated in a volume devoted to co-operative societies, the Civil Service Supply Association and two or three similar institutions. The criterion for determining whether an institution should or should not be included in these lists is nowhere given, and these examples suggest that, if any test has been applied, it has not been a severe one.

Working Men's Insurance. By W. F. Willoughby. 386 pp., 12mo. $1·75. New York: Thomas Y. Crowell and Co., 1898.

Mr. Willoughby, whose contributions to the publications of the United States Department of Labor have dealt with many matters, has, in the volume before us, made a worthy addition to the Library of Economics and Politics. The subject of the volume will appeal to readers in this country as strongly, if not

more strongly, than to those in America, for whom it is more directly prepared. Such a volume is really needed, to enable those interested in the numerous questions which now arise in increasing frequency as working-class insurance develops, to refer readily to the available experience of different countries and of different modes of organisation. The author discusses the problems presented in a careful and judicious manner, and illustrates the working of types of insurance institutions, from the compulsory and universal schemes of countries like Germany, to the voluntary organisations which represent the efforts of other peoples to achieve for themselves some part of the benefits which insurance can offer to the masses, in securing them against the worst consequences of the accidents which may befall them or of the sickness or senile debility which bring so great misery on those unprepared for these emergencies. It is important to notice the point strongly urged by Mr. Willoughby, that the mode of organisation and the location of the pecuniary burden which is best for dealing with such a case as sickness, is not that best adapted for provision for old age or for accident.

Besides a careful study of the German and Austrian State Insurance operations, the volume contains, as already indicated, an account of other types, one of the most interesting of which is afforded by the case of France, where two points specially strike the reader. The one is the manner in which, without any State compulsion, a State institution has enabled the difficulty arising from changes of employment to be overcome. Private employers' benefit funds lose much of their value because of the liability to loss of all benefit on change of employment. It is therefore of special interest to consider the working of this system of making the payments, not to a shop fund, but, on the workman's account, to a fund from which he may draw a benefit proportioned to the contribution made on his account, whether his employer live or die, or if he decide to seek work elsewhere. The limits of applicability of this system or its adaptability to the institutions of our own country deserve careful consideration. The other point, on which the author lays a good deal of stress, is the insurance in these State institutions, not merely of individuals, but of bodies of workpeople *en masse*. It is in this direction that most of their work has been done, for the opportunity offered to workpeople to insure themselves has not, on the whole, attracted them much. Employers desirous of benefiting their workpeople have found a convenient organisation ready to hand.

Belgium, Italy, Switzerland, England, and the United States supply most of the other information, besides that from Germany, Austria, and France already referred to. Out-of-work insurance is treated by itself in an appendix, which contains an account of the mode in which this problem has been, so far, handled from the practical side.

How fast events are moving in the direction which forms the subject matter of this volume may be indicated by the fact that already Denmark, France, and Italy have passed laws providing for insurance against accidents, thus rendering the discussions as

to the probable course of legislation in those countries somewhat out of date. Perhaps such a fact as this may be taken as best showing the desirability of having such a volume as this for reference on a matter which grows so fast in public interest.

We will mention but one point in which it seems to us that it might have been possible to improve the information afforded. Such a work as this cannot be compiled in a few months, we know well, but we think that information for later dates than 1893 and 1894 in regard to the Austrian and German insurance operations might, with an effort, have been given. In the case of institutions undergoing rapid development it is of great importance to get as recent accounts as possible, and it is a considerable time since more recent figures than these were to be had. This point need not be given exaggerated importance. The volume is of very great interest, and should be of great utility.

Salaires et Durée du Travail dans l'Industrie Française. Paris: Imprimerie Nationale, 1897.

In four volumes, and an album containing a large variety of graphic presentations of the statistics collected in these volumes, the French Office du Travail has now completed the publication of the results of the inquiry into wages and conditions of labour in France ordered in 1891. The results possess a very great degree of interest, for the inquiry has touched on aspects of the employment of labour on which but too little information had previously been available. One might almost say that on many points now treated no trustworthy information on a sufficient basis was available. We cannot do more here than indicate briefly the different sources of the material utilised and the extent of ground covered by the information supplied in the report, adding a very few illustrations of the results arrived at.

Inquiries were addressed in 1892 to the *maires* of the chief places in each department, and in 1896 to the *conseils de prud'hommes*, wherever these existed, some further questions being addressed to the *maires* of certain places which have no such *conseil*. Co-operative societies and various public establishments have supplied other additional evidence. Besides these, which serve to supplement the information obtained directly, for the years 1893-95 2,957 private establishments, employing in all 471,800 persons, furnished elaborate details; and when to these are added employees in public services, in regard to whom similar detailed information was obtained, some 674,000 persons were included in the range of this inquiry. But few of the establishments thus visited were of the class of petty industry, the inquiry being specially designed to apply to the larger and largest scales of industrial organisation. This point needs to be borne in mind in considering the generally representative character of the results of the inquiry, since the proportion in which the largest establishments contributed to the figures now published is considerably greater than the proportion in which they occur in the industrial organisation of the nation. One further figure may indicate the extent of the field from which material has been drawn, and that

is that the wage-sheet of the establishments examined amounted to some 28,000,000*l.* sterling in 1891. The task has been no small one. The information given deals with the division of the *personnel* of the various establishments into apprentices, children, women, men, and foremen, &c. It extends to the mechanical power used to supplement human muscular effort, to the number of days in the year when work was carried on, and the number of hours in the day. It deals with the irregularity of employment, both as to number of days worked in the year, the number of hours in a day's work, the proportion of permanent to temporary employees, overtime, Sunday work, and holidays, and the question of the existence of systems of fines, and of supplements to wages, of mutual-aid societies, and other helps to workmen in the uncertainties of their lives, including the provision of pensions. Besides all this varied information, there is given a mass of facts in regard to wages, trade by trade, and district by district. This information is made more realistic by being brought into co-ordination with information on the cost of the necessaries of existence. On these points the results of former inquiries are utilised, and an effort is made to show the extent and the course of the variation of the welfare of the working classes for half a century back, as affected by the relation of earnings to cost of subsistence.

We may now indicate in summary fashion some of the most striking and important of the results of the inquiry. About one-half of the establishments observed were owned by a single proprietor, only 15 per cent. being joint-stock companies, the remaining one-third being partnerships. The proportion of employees agrees with that of establishments only in this last case, while the businesses owned by single individuals included but one quarter of the workers, the remaining 40 per cent. being employed by the companies. In the department of the Seine the number of partnerships was proportionately larger, and the number of their employees still more so, nearly one half of the workers observed being in this species of employment. Women and children were found to amount to about 26 per cent. of the workers observed, both in Paris and in the provinces, though they reached higher figures in a few cases; as, for example, in the textile industries, where they considerably exceeded the half of the observed workers.

In regard to the length of the working day, a general correspondence between large establishments and shortened hours is suggested by the figures applying to the provinces. With a normal day between 8 and 11 hours, 89 per cent. of the provincial, but only 60 per cent. of the metropolitan workpeople were recorded. In reference to the matter of Sunday work, it is worthy of note that 93 per cent. of the workers observed had a free day every Sunday; others had less than the whole day, or had some other regular holiday, while only $5\frac{1}{2}$ per cent. had no regular holiday of this kind. In the department of the Seine only 80 per cent. had all their Sundays free, and $6\frac{1}{2}$ per cent. had no regular day of relaxation. For the most part it is the nature of the industry which is associated with Sunday work, not a mere habit independent of the exigencies of the work.

In regard to the length of the working day, a great amount of information is given. The mean duration of work in a day is worked out at $10\frac{1}{2}$ hours. The extreme variations among the groups of industries studied are, in one direction, an average day of $9\frac{1}{4}$ hours in coal mines, and, in the other, one of $11\frac{1}{2}$ hours in the textile industries. Examination by districts and by establishments show, of course, wider variations. Of the days worked in the establishments observed, 16 per cent. were at the rate of less than 9 hours per day, 65 per cent. at between 9 and 11 hours per day, and 19 per cent. at over 11 hours per day. In the textile industry only one in eight of the days of work brought into account fell short of 10 hours in length, in the mining industry but one in fourteen exceeded that length.

As to variability of the length of the working day, 84 per cent. of the observed workers had an invariable day throughout the year, and the variability exceeded two hours only in cases involving 4 per cent. of the workers observed. Night work was non-existent for three-fifths of the workers (three-fourths of the establishments), and for the same proportion overtime was not worked in the provinces. In Paris, however, the proportion of workers recorded as not affected by overtime is reduced to one-fifth. Possibly this apparent contrast is in part due to greater thoroughness of the inquiry in the case of Paris.

The investigation as to stability of employment possesses much both of interest and of novelty. The average number of days worked in the year is given at 290 per fully employed person. The variation of the number employed month by month has been followed. As a total, this number shows but a range of 4 per cent. in its variation, but the average variation per establishment works out at 19 per cent. The total number of different persons employed by each employer in the course of the year is also compared with the average number employed, and is found to exceed the latter by 35 to 40 per cent. This is taken to indicate a minimum limit for the permanent staff about 60 per cent. of the normal number employed, and an average number of days worked of 200 per man. If we take 250 days as the average number worked per person, as was estimated by trades unions from whom information was asked, it would follow that for 100 places there were 116 workers available, of whom 79 found regular and 37 irregular employ. If the former averaged 295 days' work each, the latter would only average 155 days work in the year. The method of investigation and the results are somewhat speculative, but they deserve careful attention.

Turning now to wages, here, as elsewhere, trade and district variations must be left on one side; they may be studied in the report. The average wages is given at 3·85 frs. (3*s.* 1*d.*) per day, or 3·75 frs. (3*s.*) per 10 hours of work, showing the closeness with which 10 hours approximates to a day's work. It is also given at 1,140 frs. per year. In the department of the Seine it rises to 6·15 frs. (4*s.* 11*d.*) per day, or 5·85 frs. (4*s.* 8*d.*) per 10 hours.

The cost of living is worked out in different ways. The variation of the cost of determinate quantities of consumable

articles in amounts sufficient for an average family is calculated. Two varieties of diet are employed and the changes in amount of house rent are allowed for in comparing district with district and the present with the past. The general result is that, in the course of fifty years, the average workman has obtained command of an increased quantity of goods. The cost of the same kind of life has risen by 25 per cent., but his earnings have risen 100 per cent. But, as a matter of fact, his mode of life has changed. By comparing wages of men where board is provided with those where board is not provided, and also by obtaining the cost of board and lodging to single artisans in all the chief centres, it has been deduced that now as formerly something like 60 per cent. of wages goes to provide food and lodging. As wages have doubled on the average, this should mean better provision. The remaining part of wages is available for expenditure on clothing, &c., much of what is bought for it having markedly decreased in price for equally good articles.

Such are some few samples of the wealth of information, in regard to much of which there is doubtless room for difference of opinion as to the results deduced from the ascertained facts, which these volumes contain.

Die Landwirthschaft im Deutschen Reich (*Berufs- und Gewerbezählung vom* 14 Juni, 1895). 490 pp., 4to. 8 marks. Berlin, 1898.

The full results of the German Census of Occupations of 1895, so far as they relate to agriculture, are published in this volume. The first and a very striking fact which is set forth is the decrease of the population dependent on agriculture as a principal means of livelihood. The empire showed a growth in numbers since 1882 of 14·48 per cent., but agricultural occupations show a decrease of 3·77 per cent. in those following them. The decrease occurs mainly in dependents of both sexes. In fact the decrease here is greater than the total decrease. Some decrease in house servants and in male labourers is more than offset by increases of other classes, especially of women. The agricultural population includes 8,292,692 persons following this means of livelihood with 9,833,918 persons dependent on them, together forming 35·74 per cent. of the population. The former figure shows an increase of 56,196 as compared with 1882, the latter a decrease of 724,148. Besides these, 3,648,237 persons had agriculture as a secondary means of livelihood (their holdings being mainly small), an increase of 458,479 over the corresponding figure for 1882, or at the rate of 14·37 per cent., that is, nearly in proportion to the general increase of population. The figures quoted include forestry and fishing as well as agriculture proper. The latter, however, concerns by far the larger proportion of the numbers stated, as may be seen by reference to the totals of those whose means of livelihood, principal or secondary, was agriculture proper. These include 11,623,239 of the 11,940,929 persons already enumerated. The rate of increase of numbers was greater between 1882 and 1895 in the other pursuits included in this section of the census figures than in agriculture proper. The decrease in the

population dependent on agriculture proper is from 41·36 per cent. to 34·41 per cent. of the population of the empire between 1882 and 1895, or from 58·69 to 54·79 persons per 100 hectares (say 250 acres) of agricultural land. How the proportions vary in the different divisions of the empire we have not space to show here; these facts are fully set forth in the official report.

Numerous and interesting details are given of the division of holdings according to magnitude. These we abbreviate in the following statement:—

Size of Holding.	Number of Holdings.		Total Area of Holdings (Hectares).	
	1882.	1895.	1882.	1895.
Under 20 ares (under ½ acre)	917,634	1,037,870	105,990	174,976
20 ares to 2 hectares (½ to 5 acres)	2,144,197	2,198,497	2,053,368	2,240,938
2 hectares to 20 hectares (5 to 50 acres)	1,908,012	2,015,122	15,324,919	16,679,731
20 hectares to 100 hectares (50 to 250 acres)	281,510	281,767	12,415,463	13,157,201
Over 100 hectares (over 250 acres)	24,991	25,061	10,278,941	11,031,896
Total	5,276,344	5,558,317	40,178,681	43,284,742

It should be stated that, of the total area of about 108 millions of acres here scheduled, only about 81 million acres are used for agricultural purposes. The increase of number of holdings is almost entirely of those under 50 acres, and, of the total area of the holdings, the increase is about equally divided between those of less and those of more than 50 acres. It is also, perhaps, worth noting, that holdings of less than 5 acres each, though showing an increase of gross acreage, show a slight decrease of agriculturally employed acreage. Scarcely more than one-fifth of the increase of gross acreage is shown as increase of land agriculturally employed. It is, in fact, mainly included under the head of forest land.

Of the preceding holdings, 40 per cent. are entirely owned by their cultivators. Of the area 86 per cent. is so owned, 12·38 per cent. being rented, and the rest held under various tenures. Only 16·43 per cent. of the cultivators have land all of which is rented. These are, as one would expect, most numerous among the small holders. The minimum proportion of those farming exclusively hired land is found among the holdings of from 25 to 50 acres, where less than 2 per cent. are of the category named. For larger holdings the proportion rises again.

In regard to the employment of machinery in agriculture some interesting information is tabulated. On the small holdings but little use is made of machinery, and in the main the machines used, where such use occurs, are threshing machines. Other

machines are but exceptionally used, unless on the holdings of over 250 acres. One class of machine however shows considerable use on holdings of over 50 acres, namely, the drilling machine. In comparison with thirteen years previously, a very considerable development in the use of machinery is shown.

Further details of the condition of different parts of the German empire in regard to agriculture are, perhaps, of less interest than the international statistics which are included in the German report.

The available information as to the division of the lands into holdings of various sizes is given, and the relation of owned to hired land in such holdings. The contrast between neighbouring continental countries and our own in the latter respect is well known, and is emphatically brought out by the figures given. Some particulars of the numbers of agricultural animals of various sorts in each country are also given.

A brief comparative table, showing the relative position in different countries in regard to large and small holdings, is not readily compiled. The classes into which holdings are divided are not the same for each country, so that while the tables given show the point now referred to, a brief summary table can hardly be compiled thence to show them well. One other point may be mentioned, which prevents some of the Scandinavian figures being compared with the rest, in that the classification is not by area of holding in the case of Denmark and Norway. The report states that the division is a division made for taxation purposes, but it seems to us that it does not sufficiently clearly state that division according to *hartkorn* in Denmark (for example), bears something like the same relation to division by area as would a classification of English land made according to the amount of land-tax chargeable on it; that is, gives no reliable indication either of area or productiveness.

The return is illustrated by a series of seven cartograms.

Commerce Universel au XIX^e^ siècle, et participation de la Russie aux echanges internationaux. Par M. S. Goulichambaroff. St. Petersburg, 1898.

This work is written by a gentleman who in 1893 was chosen by the Russian Government for the important task of examining the conditions of the petroleum industry in extra-Russian European countries and in North America. He therefore brings certain qualifications for this task. But he has unfortunately written entirely in Russian, and access to the numerous figures and tables which he supplies is therefore denied to many of the readers of this *Journal*. He traces in the first division of his work the development of the customs system and of the economical progress of Russia, the growth of national income, and of internal and foreign trade, as well as of the mercantile marine. He thus gives a very fair indication of the way in which the present position of Russian trade has been reached. A table showing the volume of Russian interchange of commodities with various important commercial countries is appended—

Values in Thousands of Roubles.

	Exports.	Imports.		Exports.	Imports.
Germany	179,276	175,647	Turkey	13,519	6,805
England	174,849	119,782	Switzerland	22	6,234
China	5,047	41,567	Netherlands	59,184	5,051
United States	2,207	29,457	Sweden	6,028	4,727
Austria-Hungary	34,524	24,092	Norway	4,481	2,580
France	49,531	22,549	Roumania	9,822	2,377
Finland	35,497	20,880	Spain	3,415	1,944
Persia	14,160	18,965	Greece	6,757	1,857
Belgium	25,895	14,610	Denmark	10,541	1,777
Egypt	4,813	12,212	Portugal	82	1,112
Italy	32,418	11,698	Brazil	—	721
India	101	7,672	Bulgaria	125	27

These figures relate to the trade of the year 1895, and are quite in accord with those published in its *Statistical Abstract for Foreign Countries* by the British Board of Trade. An examination of the sixty mercantile marines which comprise the tonnage of the world is also afforded. Here it is shown that Russia comes eighth in order as a shipowning country. In this analysis, too, we find that the figures given approximate closely to those in our own statistical abstract. In the same way the statistics of the railway expenditure of various nations is evidently derived from the most authentic sources available. For the information given as to the roads of the United States, which comprise in themselves about 42 per cent. of the mileage of the world, closely follow those set out in the standard work, *Poor's Manual*. The exports to and imports from the various countries are analysed, and the various commodities with which each country supplies the markets of the world are noted together with the importance of the part which each country plays in the world's commerce. On the whole it may be said that the work is painstaking, and as far as we can judge, accurate. It will doubtless be of great value to M. Goulichambaroff's countrymen, though it does not seem to contain much statistical matter which has not already appeared in standard publications of western nations.

Statistik der Ehescheidungen in der Stadt Berlin den Jahren 1885 *bis* 1894. Berlin.

The director of the statistical bureau of the city of Berlin has prepared in this return a very thorough study of divorce in Berlin for the information of members of the International Statistical Institute. He has added to it a sketch of the position in other countries than his own, as well as in the divisions of the German empire, in regard to the available material and also to the general results. Without rather special information as to the divorce laws of the different countries, the figures are apt to be misleading, because not comparable, and we quote such of them as it seems desirable to use here with the necessary reserve on this account.

A first fact worthy of note is the increase in the proportion of

married persons in Berlin from 346·7 per 1,000 of the population in 1880 to 359·2 in 1895. In comparing this number with figures for other lands, the figures for comparison which are given are those for whole countries, not for the capitals of these countries. We therefore do not cite these figures, since the comparison is somewhat halting.

A comparison of frequency of divorce is however made with other capitals. The variability of the yearly figures makes those for five-year periods more instructive for summary purposes. A tendency to increased rates of divorce is manifest. For the three last quinquennia the rates per 10,000 married are: for Berlin, 30·77, 32·96, and 32·02; for Hamburg, 22·86, 30·14, and 30·22. None of the figures given for other countries attain so high a level as these, the highest quoted being Stockholm, with a rate of 28·00 in the last period. The remark made above must be borne in mind in considering these figures. In a table giving numerous international statistics, the latest figure quoted for England and Wales is for 1886, when the divorce-rate is stated at 0·70.

The return includes most elaborate investigations into the religion, occupation, duration of marriage, ages, size of family, and cause of divorce of the persons whose dissolution of marriage is the subject of the return. All these investigations yield an instructive but complex diagram, which accompanies the tabulated material.

The occupations whose rate of divorce heads the list are those of artists and performers; then follows forestry, agriculture, and mining and smelting. Literature next follows, with a rate of 6·48 per mille, as compared with 11·38, the highest rate, and 3·17, the average for 1885-94. Next comes the largest group, so far as number of divorces is concerned, namely, commerce, with a rate of 4·81. The lowest rates appear in military and State service and among the administrators of justice and church functionaries, whose divorce-rates vary from 1·50 to 1·05. There are two groups showing no divorce in the ten years, namely, fishers and functionaries of the royal households.

The division by duration of marriage marks the sixth year of marriage life as most productive of divorce so far as totals are concerned, but the following year if the proportion to existing married persons is considered.

Divided by age, single years of age show considerable irregularity in frequency of divorce of persons of that age. The greatest frequency is shown by persons between 30 and 40 years of age. The table which correlates the ages of the men and women who were divorced is instructive, but impossible of summary representation. A not unexpected result is found in the figures showing that in more than half the cases of divorce there were no children of the marriage, and the numbers of the divorces rapidly decrease as the number of children increase.

We forbear to give any summary of the details as to various causes of divorce in different countries, for which, as for further detail on other points, reference may be made to the report itself.

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United Kingdom—

Economic Journal. June, 1898—The reform of Direct Taxation in Austria: *R. Sieghart.* An attempt to analyse the concepts of "Strong and Weak" in their economic connection: *Prof. M. Pantaleoni.* The centenary of Malthus: *J. Bonar.* The Indian currency: *F.C.H.* The Russian currency reform: *W. Dehn.* Professor Graziani on the mathematical theory of Monopoly: *Prof. F. Y. Edgeworth.* The correspondence on sugar bounties: *H. Cox.* Shop benefit clubs: *Edith Deverell.* The agricultural crisis in Europe: *G. M. Fiamingo.* The nationalization of Swiss Railways: *W. M. Acworth.*

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United States—

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Journal of Political Economy. June, 1898—Report of the Indianapolis Monetary Commission: *F. M. Taylor.* Early Canadian Railroad Policy: *S. J. McLean.* Concept of Price-determining rent: *A. M. Hyde.*

Political Science Quarterly. June, 1898—The Continental System: *Prof. W. M. Sloane.* Official Tariff Comparisons: *W. C. Ford.* The German Exchange Act: *Prof. H. C. Emery.*

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FRANCE—

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Journal de la Société de Statistique de Paris. 1898—

July—Les tableaux officiels ou privés des faits que relève la statistique portent-ils la trace des événements historiques, politiques et économiques?: *C. Juglar.* Comparaison des forces productives des États de l'Europe (*concluded in next number*): *E. Levasseur.* Quelques exemples de distribution des salaires (*concluded*): *L. March.*

August—Les associations ouvrières de production: *A. Fontaine.*

September—La statistique agricole décennale de 1892 (*to be continued*): *E. Fléchey.* Les étrangers dans l'empire allemand d'après le dernier dénombrement: *P. Meuriot.* La dépopulation dans l'Orne (*to be continued*): *A. Dumont.* Chronique de statistique judiciaire: *E. Yvernès.*

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June—Le socialisme et l'individualisme: *Y. Guyot.* Sur l'état actuel de la demographie: *E. Levasseur.* L'accroissement de la population et de la richesse en Angleterre: *Dr. J. Goldstein.* Le socialisme en Angleterre: *H. Bouët.* Lettre du Japon: *H. Dumolard.*

July—Quelques considérations sur la rente et le profit: *L. Domanski.* Trois grands "acts" de Gladstone, 1855-61-70: *A. de Malarce.* Les sociétés de crédit en 1897.

August—Un problème de statistique humaine et sa solution: *M. Block.* Justice et Charité: *G. Ambon.* Le mouvement agricole: *L. Grandeau.* Le salaire et la concurrence industrielle de l'ouvrier japonais: *D. Bellet.*

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58—La vie ouvrière aux États-Unis: *H. Clément.* Les jardins ouvriers aux États-Unis: *L. Rivière.*

59—Trois années de mutualité scolaire dans le Hainaut: *Baron R. du Sart de Bouland.* L'affaiblissement de la natalité, est-il un bien ou un mal?: *C. Mourre.*

60—Compte rendu de la réunion annuelle.

61—De l'indisponibilité et de l'indivisibilité totales et partielles du patrimoine (*to be continued*): *R. de la Grasserie.* Les accidents du travail et la pension aux ayant-droit des ouvriers tués: *M. Cheysson.* La caisse des incendiés du Département de la Meuse, à propos des projets de création des caisses départementales d'assurances (*to be continued*): *P. Salmon-Legagneur.* La Maison du Travail à Bruxelles et le placement des assistés: *L. Rivière.*

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Allgemeines Statistisches Archiv. Band 5, *Halbband* 1. 1898—Die repräsentative Untersuchungsmethode: *A. N. Kiaer.* Das Gesetz des sozialen Fortschritts: *G. M. Fiamingo.* Die Reorganisation der Statistik der Bevölkerungsbewegung in Oesterreich: *Dr. F. von Meinzingen.* Die belgische Industrie- und Gewerbezählung vom Herbst 1896: *Dr. G. v. Mayr.* Einige Ergebnisse aus den Schweizer Rekrutenuntersuchungen: *Dr. S. Rosenfeld.* Das Problem der russischen Sterblichkeit: *Dr. L. v. Bortkewitsch.* Zur Statistik der Haushaltungen: *Dr. G. B. Salvioni.* Die Sterblichkeit der Ledigen und der Verheirateten; nebst Sterbetafeln derselben, berechnet für Bayern: *Dr. Prinzing.*

Archiv für Soziale Gesetzgebung und Statistik. Band xii, Hefte 5 *und* 6—Der sozialpolitische Inhalt der Civilprozessnovelle: *H. Jastrow.* Der Ausstand der englischen Maschinenbauer: *C. Edwards.* Die Statistik der Unfall- und Krankenversicherung der Arbeiter in Oesterreich für die Jahre 1890-95: *Dr. H. Rauchberg.* Die Gewerkvereine der Vereinigten Staaten: *Alzina P. Stevens.* Die neue italienische Gesetz betr. die Betriebsunfälle der Arbeiter: Eingeleitet: *Prof. C. F. Ferraris.* Wortlaut des Gesetzes die Betriebsunfälle der Arbeiter betreffend vom 17 März, 1898, Nr. 80.

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Heft 6, *June*—Agrarstatistische Untersuchungen: *J. Conrad.* Die der ausländischen Kontrolle unterworfenenen griechischen Steuern: *G. Diobouniotis.* Die Entwickelung der deutschen Textilindustrie: *F. Zahn.*

Heft 1, *July*—Das neue Stempelgesetz für Elsass-Lothringen: *A. Hertzog.* Die grossen Berliner Effektenbanken im Jahre 1897: *H. J. Mankiewicz.* Die Entwickelung des russischen Staatshaushalts, 1887-98: *M. von Heckel.*

Heft 2, *August*—Die Heuerleute im oldenburgischen Münsterlande: *P. Kollmann.* Neuere Entwickelung der Einkommensteuer-Gesetzgebung im Grossherzogtum Sachsen-Weimar: *H. Ortloff.* Der Aussenhandel der Vereinigten Staaten im Rechnungsjahre 1897: *M. Diezmann.*

Vierteljahrshefte zur Statistik des Deutschen Reichs. Heft 3, 1898—Ernte-Statistik für 1897. Dampfkessel-Explosionen während des Jahres 1897. Zur Statistik der deutschen Lebensversicherungs-Gesellschaften im Jahre 1896.

AUSTRIA—

Statistische Monatschrift. April—May Heft, 1898—Statistik der Studentenstiftungen in den im Reichsrathe vertretenen Königreichen und Ländern nach dem Stande vom 31 Dec., 1896: *Dr. F. Schmid.* Oesterreich-Ungarns Aussenhandel im Jahre 1897: *Pizzala.* Materialien zur Kenntnis des Personalcredites in den im Reichsrathe vertretenen Königreichen und Ländern mit besonderer Berücksichtigung der Verhältnisse der Kleingrundbesitzer und Kleingewerbetreibenden: *Dr. F. Schmid.*

ITALY—

Giornale degli Economisti. 1898—

July—Nuovi contributi alla teoria Marxistica del valore: *G. Sorel.* Debito pubblico ottomano: *E. Arcucci.* Scioperi in Italia e all' estero: *A. Bertolini.* Il successo elettorale de' socialisti tedeschi: *v. M.*

August—Illusione finanziaria mediante associazione delle pene delle imposte fra loro e con altre pene: *A. Puviani.* La nuova legge francesse sulla responsabilità degli infortuni sul lavoro: *G. François.*

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Bulletin Russe de Statistique financière. 1898. *Nos.* 4—6—Mines et métallurgie; Détails sur la production de 1896; Production du pétrole brut aux États-Unis et en Russie pendant les 17 dernières années; Liste, par ordre d'importance de leur capital-actions nominal, des sociétés minières et métallurgiques constituées ou autorisées à se constituer suivant les lois russes. Sucres; Production comparée de l'Allemagne, de la France et de la Russie pendant les 16 dernières campagnes. Production agricole; Production brute et production *nette* en 1870-97 du blé, du seigle, de l'avoine, de l'orge des autres céréales et des pommes de terre dans la Russie d'Europe et la Pologne.

SWITZERLAND—

Journal de Statistique Suisse. 1898—

Lief. 5—Der Konsum und die Preise des Fleisches im Kanton St. Gallen: *C. Zuppinger.* Résultats comparés des recensements cantonaux genevois de 1895 et 1896: *E. Kuhne.*

Lief. 6—Die Selbstmorde im Kanton Zürich in Vergleichung mit der Zahl der Verbrechen: *Dr. Zürcher.* Die Unglücksfälle mit tödlichem Ausgange im Kindesalter in der Schweiz während der Jahre 1891 bis 1895: *B. F. v. Tscharner.*

VI.—*Quarterly List of Additions to the Library.*

Additions to the Library during the Quarter ended 15th September, 1898, *arranged alphabetically under the following heads:*—(a) *Foreign Countries;* (b) *India and Colonial Possessions;* (c) *United Kingdom and its Divisions;* (d) *Authors, &c.;* (e) *Societies, &c.* (*British*); (f) *Periodicals, &c.* (*British*).

Donations.	By whom Presented (when not purchased).
(a) Foreign Countries.	
Argentine Republic—	
Comercio Exterior Argentino. Año 1898. No. 98	The Director-General of Statistics
Higiene. Anales del Departamento Nacional de. (Current numbers)	The Department
Buenos Ayres (*City*)— Annuaire Statistique de la Ville. viie année, 1897 Monthly Return of Municipal Statistics. (Current numbers)	The Municipal Statistical Bureau
Austria-Hungary—	
Ackerbau- Ministeriums. Statistisches Jahrbuch des k.k., für 1897. Heft 1, Statistik der Ernte des Jahres 1897. Heft 2, Bergwerksbetrieb Osterreichs im Jahre 1897. Lief. 1. Diagrams, &c., 8vo.	The Ministry of Agriculture
Arbeitsstatistik. Gesetz betreffend . . . 32 pp., 8vo. 1898	The Statistical Department, Ministry of Commerce
"Austria." Archiv für Gesetzgebung und Statistik auf den Gebieten der Gewerbe, des Handels und der Schiffahrt. (Current numbers.) 8vo.	
Ausweis über die monatl. Durchschnittspreise von Weizen, Korn, Gerste, Hafer, und Mais in Marktorten. (Current numbers.) Sheets	The Central Statistical Commission
Consulats-Behörden. Jahresberichte der k. und k. österr.-ungar. (Current numbers.) 8vo.	The Statistical Department, Ministry of Commerce
Handel. Statistische Übersichten betreffend den auswärtigen, des österr.-ungar. Zollgebiets. (Current monthly numbers and for the first half of 1898)	
Handels. Statistik des Auswärtigen, des österr -ungar. Zollgebiets. Jahr 1896. Band i (Abth. 1), Hauptergebnisse. Hafenverkehr, &c. Band iii, Vormerkverkehr-Durchfuhr. Jahr 1897. Band ii, Special-Handel	
Österreichisches Statistisches Handbuch für 1897. 8vo.	The Central Statistical Commission
Rechtspflege. Ergebnisse der Strafrechtspflege, 1895	
Sanitätswesens. Statistik des, für 1895	
Statistische Monatschrift. (Current numbers)	
Unterrichtsanstalten. Statistik der, für 1894-95. Fol.	
Verkehrs. Statistik des, für 1894 und 1895. Abth. 2. Seeschiffahrt und Seehandel, Eisenbahnen, &c.	
Hungary— Feuerschäden in 1895 und 1896. Fol. 1898....	The Central Statistical Bureau of Hungary
Landwirtschaftliche Statistik. Theil 2, Landwirtschaftliche Production in 1895 und 1896. Fol.	
Ungarisches Statistisches Jahrbuch. Neue Folge. IV. 1896. 8vo....	
Brünn. Statistischer Wochenbericht . . . der Landeshauptstadt Brünn. (Current weekly numbers)	The Burgomaster
Prague. Bulletins hebdomadaires et trimestriels de la ville et communes-faubourgs. (Current numbers)	The Municipal Statistical Bureau

Donations—Contd.

Donations.	By whom Presented (when not purchased).
(a) **Foreign Countries**—*Contd.*	
Belgium—	
Commerce spécial avec les pays étrangers en ce qui concerne les principales marchandises. Bulletin mensuel du. (Current numbers.) 4to.	The Bureau of General Statistics
Mines de Belgique. Annales des, année 1898. Tome iii, livraison 3. Plates, 8vo.	The Administration of Mines
Travail. Revue du Travail publiée par l'Office du. (Current monthly numbers.) 8vo.	The Belgian Labour Department
Brussels. Bulletins hebdomadaires et trimestriels de statistique démographique et sanitaire. (Current numbers)	Dr. E. Janssens
Bulgaria—	
Commerce de la Principauté avec les Pays étrangers. Statistique du. Mouvement de la Navigation et prix moyens annuels . . . pendant 1897. 4to.	The Statistical Bureau
Écoles dans la Principauté. Statistique des, pendant 1895-96. La. fol.	
Mouvement commercial avec les pays étrangers. Mouvement de la navigation par ports. Prix moyens dans les principales villes. (Current monthly numbers.) La. 8vo.	
China—	
Customs Gazette. Jan.—March, 1898	Sir Robert Hart, G.C.M.G.
Returns of Trade and Trade Reports for 1897. 4to.	
Journal of the China Branch of the Royal Asiatic Society. New Series. Vol. xxviii, 1893-94. Plates	The Society
Denmark—	
Copenhagen. Résultats du Recensement de la population, 1 Fev., 1895. (Statistique de la population, des professions et de l'immigration. Statistique des habitations et des prix des loyers.) (In Danish.) 4to. 1898	The Municipal Statistical Bureau
Nationalökonomisk Tidsskrift, 1898. (Current numbers)	The Danish Political Economy Society
Egypt—	
Comité de Conservation des Monuments de l'Art Arabe. Exercice 1896. Procès-Verbaux des Séances, &c. Fasc. 13. Plates, 8vo.	The Committee
Commerce extérieur. Bulletin mensuel du. (Current numbers)	The Director-General of Customs
Commerce extérieur de l'Égypte pendant 1897	
Douanes. Administration des, Rapport du Directeur Général sur l'exercice de l'année 1897	
Douanes. Classification des marchandises par catégories. 26 + 19 pp. 8vo. 1898	
Dette Publique. Compte-Rendu des Travaux de la Commission de la, pendant 1897. 22e année. 8vo.	The Ministry of Finance
Finances. Compte général de l'administration des, pour l'exercice 1897. Fol.	

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Donations.	By whom Presented (when not purchased).
(a) Foreign Countries—*Contd.*	
Egypt—*Contd.*	
Postes Égyptiennes. Administration des, Rapport sur l'exercice 1897. 8vo.	The Post Office
Postal Guide, Egyptian. No. 20, 1st May, 1898. 8vo.	
Sanitaires, &c. Bulletin hebdomadaire de l'Administration des Services. (Current numbers)	The Health Department
Statistique sanitaire des Villes. Résumé de la période quinquennale de 1886-90. 2e Partie. Naissances et Décès, mouvement des hôpitaux. Diagrams. 4to. 1898	
Egyptian Statistical Tableau for 1897. Compiled and published annually by R. J. Moss and Co., Alexandria. 31st issue. Sheet	Messrs. R. J. Moss and Co.
France—	
Agriculture. Bulletin du Ministère de l'. Année 1898. (Current numbers)	The Ministry of Agriculture
Chemins de Fer Français. Statistique des, au 31 Dec., 1896. Documents divers, 1e partie	The Ministry of Public Works
Commerce de la France. Documents Statistiques. (Current monthly numbers)	Purchased
Commerce et Navigation. Tableau général du, année 1897. Vol. i, Commerce de la France avec ses Colonies et les puissances étrangères. 4to. 1898	The Director-General of Customs
Finances, Ministère des. Bulletin de Statistique et de Législation comparée. (Current monthly numbers)	The Ministry of Finance
Monnaies et Médailles. Administration des, Rapport au Ministre des Finances, 3e année, 1898. Diagrams and plates. 8vo.	The Director of the Mint
Statistique générale de la France. Tome xxiv. Statistique annuelle (année 1894). La. 8vo	Purchased
Statistique générale de la France. Tome xxv. Statistique annuelle (année 1895). Mouvement de la population. Institutions et établissements d'assistance et de bienfaisance. La. 8vo.	The French Labour Department
Statistique des grèves et des recours à la conciliation et à l'arbitrage survenus pendant 1897. 8vo.	
Travail. Bulletin de l'Office du. (Current monthly numbers.) 8vo.	
Dictionnaire du Commerce, de l'Industrie, et de la Banque, publié sous la direction de Yves Guyot et A. Raffalovich. Livr. 2. 8vo. 1898	Purchased
Économiste Français. (Current weekly numbers)	The Editor
Journal des Économistes. (Current monthly numbers)	,,
Monde Économique. (Current weekly numbers)	,,
Polybiblion. Revue Bibliographique Universelle. Parties Littéraire et Technique. (Current monthly numbers)	,,
Réforme Sociale. (Current numbers)	,,
Rentier. Journal Financier Politique. (Current numbers)	,,
Revue d'Économie Politique. (Current monthly numbers)	,,
Revue Géographique internationale. (Current numbers)	,,

Donations—Contd.

Donations.	By whom Presented (when not purchased).
(a) **Foreign Countries**—*Contd.*	
France—*Contd.*	
Revue de Statistique. Recueil hebdomadaire de documents économiques, commerciaux, industriels, agricoles. (Current numbers.) 8vo	The Publisher
École Libre des Sciences Politiques. Annales. (Current numbers)	The Institution
Musée Social. Circulaires. (Current numbers.) 4to	,,
Société de Statistique de Paris. Journal. (Current monthly numbers)	The Society
Germany—	
Berufs- und Gewerbezählung, 14 *Juni*, 1895—	
Gewerbe-Statistik der Bundesstaten. Theil 1	The Imperial Statistical Bureau
Gewerbe-Statistik der Grossstädte	
Gewerbe-Statistik der Verwaltungsbezirke. Theile 1 und 2. 2 vols.	
Landwirthschaft im Deutschen Reich, 1898. Maps,	
Gesundheitsamtes. Veröffentlichungen des Kaiserlichen. Nos. 1—26, 1898	The Imperial Health Bureau
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Vol. LXI.] [Part IV.

JOURNAL

OF THE ROYAL STATISTICAL SOCIETY,

DECEMBER, 1898.

Old Age Pensions. *By* Sir Henry Burdett, K.C.B.

[Read before the Royal Statistical Society, 15th November, 1898. Charles Booth, Esq., Honorary Vice-President, in the Chair.]

In reading this paper before you to-day, I desire at the outset to make it clear that I approach this question from the point of view of a practical man of business, who has devoted many years of his life to the working out of a scheme of old age pensions for women workers, which has proved to be a complete — nay an extraordinary success. That scheme is known as the Royal National Pension Fund for Nurses, and, although it has been contended that it cannot be taken as a basis for arriving at a conclusion as to how far it is practicable on a thrift basis to place old age pensions within the reach of all intelligent and provident members of the large army of the humbler workers in this country, because nurses as a class have more than average intelligence in these matters, I am bound to say that those who put forward this contention exhibit little practical knowledge of the facts, and their views have been shown by experience to be without reasonable foundation.

I propose to-night to endeavour to focus the various arguments which have been urged for and against old age pensions, to emphasise the difficulties which have been shown to exist, and to endeavour to point a practical way for meeting those difficulties and placing old age pensions within the reach of the really deserving and thrifty members of the humbler classes of citizens. I am old enough to have had experience of the inner working of men's minds, and I have come to realise that, whether you want an opinion from counsel, or one from a surgeon of eminence, it is possible, if you have a knowledge of men, to submit your case to a capable and recognised authority who probably will, if wisely selected, give an opinion, in perfectly good faith, which will support the particular view which you wish to be upheld. For instance, where a case of disease which may or may not require surgical interference has to be dealt with, it is a

well-known fact that there need be no difficulty in selecting on the one hand, a conservative surgeon whose instincts will incline him to decide against an operation; or, on the other, an equally eminent member of the profession who believes implicitly in the value of operative interference wherever possible. So on this question, some of those who have devoted time and thought to the study of the report and evidence contained in the Blue Books issued by what are known as Lord Aberdare's and Lord Rothschild's committees, may have been struck with the feeling that the members[1] of those committees, or the majority of them, commenced their inquiry with the conviction that old age pensions were a dream, and that any attempt to make them possible would exhibit great weakness on the part of those who recommended any such step. It is of the first importance that all impartial people with open minds should realise this trend of opinion in certain persons, and that they should understand that heretofore old age pensions have been dealt with mainly by those whose natural instincts would lead them to advise that nothing should be done, and whose convictions might impel them to exhaust their energies in finding reasons in support of a negative view of this question, which I regard as being the most urgent and important of all the social questions now before the country.

I have the honour to-night to address the members of a Society of trained investigators, many of whom are masters of facts and figures, and most of whom I have no doubt are familiar with the various reports and schemes which have been published or formulated during the last ten years. In such circumstances I should not be justified in bringing out in detail these various proposals, and, were I to attempt it, weariness and not wisdom might not unnaturally result from this paper. I desire, however, to be practical, to speak as one who has an intense love of his country, and the deepest sympathy with all workers of both sexes in all grades and conditions of life. I regard it as a grievous reflection upon the intelligence and heart of our day and generation, that very many people, and especially that any party in politics, should be contented, when pressed to help forward the demand for facilities to enable all classes to make a reasonable provision for old age, to reply, "There is the poor law for the sick and aged; "it was good enough for our fathers, and should be good enough "for you." Such utterances, though I confess they are not usually put as plainly as I have ventured to put them, may be characterised as exhibiting not only a want of heart,

[1] See, however, the remarks of Mr. Brabrook (*post*, p. 628), and of the Chairman (*post*, p. 636), and Sir H. Burdett's reply (*post*, p. 637).—ED.

but an absence of policy and an ignorance so amazing, as to condemn the holders of such opinions as unfit to take any active part in the administration of local or imperial affairs. I repeat, to contend that we have the poor law, and that anything outside the poor law is undesirable from every point of view, is to display an ignorance of the actual position of affairs in these realms to-day which is remarkable and dangerous. It is remarkable, because every householder has to pay the poor rates—a fact which ought to make him solicitous to ascertain how far the high rates now paid are justifiable, and whether the ratepayers get money value for the amounts contributed to the support of the poor through the rates by the people. It is dangerous, because the Local Government returns prove that every year, although a less number of persons receive relief from the poor rates, the cost of such relief has steadily increased. Thus in the metropolis we find that the total relief of the poor in 1874 cost 1,633,182*l.*; that it increased to 2,267,330*l.* in 1884; to 2,900,940*l.* in 1894; and that in 1897, the last year for which the figures are available, it amounted to no less a sum than 3,108,393*l.* These figures are sufficiently alarming without reference to the population and the total number of in-door and out-door paupers; but their serious character is materially increased by the discovery that the mean number of in-door and out-door paupers in the metropolis in 1874 was 115,010, in 1884 was 99,425, in 1894 114,639, and in 1897 118,369. That is to say, although the mean number of in-door and out-door paupers had decreased in 1884 and 1894 as compared with 1874, the cost of relief had increased by 38 per cent. and 77 per cent. respectively; and further, that although the mean number of persons receiving relief was only 3 per cent. higher in 1897 than it was in 1874, yet the cost of such relief had increased by no less than 90 per cent. Nor is this all, for the ratio of in-door and out-door paupers per 1,000 of the population fell from 34·1 in 1874 to 26·6 in 1894, and 26·8 in 1897, the ratio having been 25·1 in 1884. A further material fact is the circumstance that, whereas the cost per head on the mean number of paupers in the metropolis in 1874, according to the Local Government Board returns, was 14*l.* 4*s.*, it rose to 25*l.* 6*s.* 1¼*d.* per head in 1894, and to 26*l.* 5*s.* 2½*d.* per head in 1897; and is still increasing. These figures afford much food for thought, and their importance is considerably emphasised when a comparison is made between them and the growth and cost of poor law relief in England and Wales. The total relief to the poor in England and Wales, including the metropolis, for the year 1874 amounted to 7,664,957*l.*; it increased in 1884 to 8,402,553*l.*; in 1894 to 9,673,505*l.*; and in 1897 to

10,432,189*l.* The mean number of in-door and out-door paupers in 1874 was 827,446; in 1884, 765,914; in 1894, 787,933; and in 1897, 814,887. The cost per head on the mean number of paupers of all classes in England and Wales was, according to the Local Government Board returns, in 1874, 9*l.* 5*s.* 2¾*d.*; in 1884, 10*l.* 19*s.* 5*d.*; in 1894, 12*l.* 5*s.* 6½*d.*; and in 1897, 12*l.* 16*s.* –½*d.* But I have to point out, as the foregoing figures show, that the cost of poor law relief per pauper in England and Wales (in 1897, 12*l.* 16*s.* –½*d.*) is less than half the cost of it per pauper in the metropolis in 1897 (26*l.* 5*s.* 2½*d.*). If the country can be made to realise that one fact, I believe they will incline to a much more favourable view of the reasonableness, nay of the necessity as well as of the justice of setting up machinery whereby old age pensions may be provided on a thrift basis. If they can, further, be got to understand that, although the number of in-door and out-door paupers is falling year by year, the cost of maintaining what remains is steadily increasing, I take it that they will recognise that the present system of poor law administration requires their most earnest and continuous attention, and that public opinion must speedily compel Parliament to take steps to eradicate such evils as the foregoing, which are as wasteful as they are costly, and as undesirable as they are indefensible. I would like this head-line to appear continuously for weeks in every newspaper issued by the British press to the British public:—

The cost to the ratepayers of 827,446 paupers in England and Wales in 1874 was 7,664,957*l.*; whereas the cost to them of 814,887 paupers, or 12,559 less, in 1897, was 10,432,189*l.*, an increase in round numbers of two and three-quarter millions sterling.

Once get these figures photographed on the brain of the nation, and I am confident that whether old age pensions are to be substituted for poor law relief in suitable cases, or not, the present poor law system is not likely to be maintained much longer on its present extravagant and wasteful basis. By way of illustrating the justice of this view it may be pointed out that the mean annual expenditure per individual pauper in the metropolis at the present time is more than equivalent to the sum required to maintain a respectable person after 60 years of age in independence and comfort in his own home. If the expenditure upon each in-door pauper in the metropolis be taken it will be found, as I shall show later on, to amount to nearly double the annual sum needed to pension a respectable member of the humbler classes of the population.

Mean Annual Cost per Head of each In-door and of each Out-door Pauper.

Heretofore, so far as I have been able to discover, no attempt has been made to ascertain as nearly as possible what is the annual cost per head of each in-door and of each out-door pauper. Any one who is familiar with the figures and returns which relate to poor-law relief is aware that the form in which the figures are given is that of showing the cost per head on mean number of paupers of all classes. If it is desired to ascertain the cost of each in-door pauper, inquirers are met with the statement that there is no precise classification of the expenditure, and that no such figures are available. I have, however, felt that it is essential that public attention shall be aroused and fixed upon the figures which demonstrate the actual annual cost of each in-door pauper and of each out-door pauper to the ratepayers of this country. I have been at some trouble to get out the figures as nearly and as accurately as they can be ascertained, and they will be found in the table on the following page:—

At the outset I would specially draw attention to the fact that in order to get at the figures it has been necessary to examine closely the items in the foregoing table which are included under the heads of (1) in-maintenance; (2) out-relief; (3) workhouse and other loans repaid and interest thereon; (4) salaries, remuneration, rations and superannuation allowances of officers and servants; and (5) other expenses of or immediately connected with relief. The foot notes to that table give the explanation of each item, which is contained in the annual report of the Local Government Board. In order to apportion the expenditure as accurately as possible, after consultation with those who are intimately acquainted with the details, I have come to the conclusion that the cost of in-door paupers may be properly taken to include the following items: the whole of (1) in-maintenance and (3) workhouse and other loans; one-half of (4) amount expended on salaries; and three-fourths of (5) other expenses. On the other hand, the expenditure upon out-door paupers includes the whole of (2) out-relief; one-half of (4) salaries; and one-fourth of (5) other expenses. It will be noticed that I have excluded from the figures 55,993*l.*, expended on patients in the Metropolitan Asylums Board hospitals, the patients being also excluded from the number of paupers, and 279,848*l.*, representing the receipts from the Metropolitan Common Poor Law Fund. A careful calculation made upon this basis reveals the astounding fact that each in-door pauper in the metropolis (there were 57, 919 in 1897) cost in that year no less a sum than 34*l.* 3*s.* 6*d.*, and that each out-door

COST PER HEAD *of* EACH IN-DOOR *and* OUT-DOOR PAUPER (EXCLUDING VAGRANTS):—(a) *in England and Wales and* (b) *in the Metropolis for the Year ended Lady-day*, 1897.

Heads of Expenditure.	England and Wales (including Metropolis).						Metropolis.					
	Total Cost.	In-door Paupers (excluding Vagrants), 185,862.		Out-door Paupers, 530,146.			Total Cost.	In-door Paupers (excluding Vagrants), 57,919.		Out-door Paupers, 39,543.		
		—	Cost per Head.	—	Cost per Head.			—	Cost per Head.	—	Cost per Head.	
	£	£	£ s. d.	£	£ s. d.		£	£	£ s. d.	£	£ s. d.	
In-maintenance*	2,256,667	2,256,667	12 2 10	—	—		799,344†	799,344	13 16 –	—	—	
Out-relief ‡	2,680,296	—	—	2,680,296	5 1 1		221,235	—	—	221,235	5 11 10	
Workhouse and other loans repaid, and interest thereon §	793,001	793,001	4 5 4	—	—		443,819	443,819	7 13 3	—	—	
Salaries, remuneration, rations, and superannuation allowances of officers and servants ‖	1,781,509	890,755	4 15 10	890,754	1 13 7		681,995	340,998	5 17 9	340,997	8 12 6	
Other expenses of or immediately connected with relief ‖ ¶	1,278,211	958,658	5 3 2	319,553	– 12 1		527,114	395,336	6 16 6	131,778	3 6 8	
	8,789,684	4,899,081	26 7 2	3,890,603	7 6 9		2,673,507	1,979,497	34 3 6	694,010	17 11 –	

* IN-MAINTENANCE consists of all the expenses incurred in and about the maintenance, treatment and relief of the paupers in workhouses and other poor law institutions under the control of boards of guardians or the managers of asylum and school districts, exclusive of repairs and furniture, and the salaries, remuneration, and rations of the officers and servants, but inclusive of charges for apprentice fees, outfits, burials, and the necessary expenses incurred in warming, cleansing, and lighting the workhouses and institutions above referred to, and otherwise keeping them fit for daily use.

† Does not include 55,993*l.* expended on patients in Metropolitan Asylums Board hospitals.

‡ OUT-RELIEF consists of the charges for all relief, whether given in money or in kind, to paupers relieved out of workhouses or the other institutions above referred to, together with school fees, schooling, and other expenses incurred with respect to such paupers, but exclusive of the salaries of officers, the charges for relief stations, and the expenditure on the maintenance of lunatics in asylums, registered hospitals, and licensed houses.

§ WORKHOUSE AND OTHER LOANS REPAID, AND INTEREST THEREON, includes all payments of principal and interest on account of the loans raised by boards of guardians and managers of asylums and school districts for poor law purposes.

‖ One-half of the amount expended on salaries, and three-fourths of "other expenses," have been debited to in-door paupers and the remainder to out-door paupers.

¶ OTHER EXPENSES include (*inter alia*) expenditure on furniture, building, and repairs; certain establishment charges; the expenses of the maintenance of paupers in institutions other than poor law institutions, *e.g.*, in institutions for the deaf and dumb or blind, in hospitals, and in certified schools; the cost of drugs and medical and surgical appliances, so far as it cannot be apportioned to in-maintenance and out-relief; rents and rates; the cost of printing, stationery, and advertisements, and wood, oakum, stone, &c., used for the employment of paupers; and the expenses connected with the cultivation of workhouse gardens and farms, so far as they cannot be apportioned to in-maintenance, rations of officers, &c.

pauper in the metropolis actually cost 17*l.* 11*s.* Bear in mind that the most zealous advocates of old age pensions have laid down that an income of 18*l.* a year, whether derived from savings or partly from savings and partly from bonus additions, constitutes an adequate pension for the comfortable sustenance and support of one person belonging to the most respectable members of those sections of the industrial classes who have attained 65 years of age.

Turning next to the figures which relate to England and Wales, including the metropolis, I find that every in-door pauper for the year 1897 cost 26*l.* 7*s.* 2*d.*, and that each out-door pauper cost 7*l.* 6*s.* 9*d.* It will thus be seen that, whether we take the in-door paupers in the metropolis, or throughout England and Wales, the same result is shown by these figures, viz., that the cost of the poor law system in London is nearly twice as much as, and in England and Wales is nearly 50 per cent. more than, the 18*l.* a year which, most people agree, would suffice by way of pension on the attainment of the pension age. Of course many of these paupers are sick or infirm people, a point which I have duly brought out and provided for in the course of this paper.

There is a criticism which I may have to meet, and that is that I have excluded vagrants from the figures on which the foregoing calculations are based. The exclusion or inclusion of vagrants does not however, for practical purposes, materially affect my argument, but in order that the point may be fully met I will now proceed to give a table in which the vagrants are taken into account. I must however insist, as a matter of fact, that the relief of vagrants in reality can only touch two items of the expenditure, *i.e.*, in-maintenance and salaries, so that it is manifestly wrong to treat a vagrant as costing as much as an in-door pauper, because his treatment and the circumstances and conditions on which he is received are totally different, and so the cost of a vagrant is much less than the cost of an in-door pauper. Of course those familiar with the Poor Law system will appreciate the fact that the vagrants have nothing to do with out-door relief.

Let us turn to the table and see what is the actual reduction in the cost of each in-door pauper, when the poor law authorities are given the benefit of a calculation which adds the total number of vagrants to the number of in-door paupers already included for the purposes of these tables. It will be seen that the cost per head in the metropolis then amounts to no less than 30*l.* 4*s.* 6*d.*, whilst the cost per head in the provinces is 22*l.* 17*s.* Putting it in another way, I may state that the cost of each in-door pauper, including vagrants, in the metropolis, on this basis, is 68 per cent. more than the maximum charge which would be possible on his behalf if

COST PER HEAD *of* IN-DOOR *and* OUT-DOOR PAUPERS (INCLUDING VAGRANTS) :—(a) *in England and Wales and* (b) *in the Metropolis for the Year ended Lady-day*, 1897.

Heads of Expenditure.	England and Wales (including Metropolis).						Metropolis.					
	Total Cost.	In-door Paupers (including Vagrants and Insane in Workhouses), 214,382.		Out-door Paupers (excluding Lunatics in Asylums, &c.), 530,322.			Total Cost.	In-door Paupers (including Vagrants and Insane, &c., in Workhouses), 65,486.		Out-door Paupers (excluding Lunatics in Asylums, &c.), 39,543.		
		—	Cost per Head.	—	Cost per Head.			—	Cost per Head.	—	Cost per Head.	
	£	£	£ s. d.	£	£ s. d.		£	£	£ s. d.	£	£ s. d.	
In-maintenance	2,256,667	2,256,667	10 10 6	—	—		799,344	799,344	12 4 1	—	—	
Out-relief	2,680,296	—	—	2,680,296	5 1 1		221,235	—	—	221,235	5 11 10	
Workhouse and other loans repaid, and interest thereon	793,001	793,001	3 14 –	—	—		443,819	443,819	6 15 6	—	—	
Salaries, remuneration, rations, and superannuation allowances of officers and servants	1,781,509	890,755	4 3 1	890,754	1 13 7		681,995	340,998	5 4 2	340,997	8 12 6	
Other expenses of or immediately connected with relief	1,278,211	958,658	4 9 5	319,553	– 12 1		527,114	395,336	6 – 9	131,778	3 6 8	
	8,789,684	4,899,081	22 17 –	3,890,603	7 6 9		2,673,507	1,979,497	30 4 6	694,010	17 11 –	

For notes, see Table on p. 602.

every one of the 65,486 persons included were to be granted a pension of 18*l.* per annum. In England and Wales the cost of the present system is 27 per cent. higher than it would be if every one of the 214,382 in-door paupers and vagrants were to be placed upon the pension list, and to receive the sum of 18*l.* per head per annum.

I may remark in passing that if the immaculate purists and procreative "don'ts" of to-day maintain that old age pensions are too costly and extravagant, what have they to say in defence of their much belauded poor law system, which is conducted on a basis so extravagant and costly as that which these figures demonstrate? It may be well to state further that the cost per head on the mean number of paupers of all classes for the year 1897, published in the report of the Local Government Board, for England and Wales was 12*l.* 16*s.* –½*d.*; the cost per head on the mean number of out-door paupers was 5*l.* –*s.* 1¾*d.* In the metropolis for the year 1897 the cost per head on mean number of paupers of all classes is given as 26*l.* 5*s.* 2½*d.*, and the cost per head on mean number of out-door paupers as 5*l.* 11*s.* 6¾*d.* Even these figures show that the cost of the mean number of paupers of all classes is more than twice as great in London as it is in England and Wales.

This question of Poor Law administration and its cost is the bedrock from which we must start to build the new social reforms which will bring us to such a state of efficient administration in these matters, that old age pensions for everybody entitled to them may be forthcoming, and that provision may be made for all the ne'er-do-weels and other people who must necessarily still belong to the poor law. In my judgment, speaking as a financier and a man of business, providing we adopt this as a basis of operations, there should ultimately be not only no increase in the sum now spent upon poor law administration alone, but a positive decrease in that charge upon the ratepayers of this country. It would take too long were I to-night to attempt to set forth the reasons, the figures and the experiences upon which this declaration is based. I make it, however, with all the authority which care and knowledge can command, and I am prepared to justify it at any time should such justification be demanded by those who are interested in these questions, and who have a right to be satisfied that the statement here made in all sober earnestness is a demonstrable fact, and not the fiction of a mere enthusiast who has allowed his sentiments to run away with his senses. If I am right—and I am confident that I am right—I am entitled to claim at the outset, before I enter into details, that the provision of old age pensions is a practical question, and that it is one of such vast

importance to the whole community, that from a mere economic point of view every intelligent ratepayer, every man of affairs who is charged with the duty of administering the machinery of the State, and all who are proud of our day and generation, and who believe that we are not less, but, on the whole, better educated and more capable of dealing with these questions than the ages which have preceded us—I say all these, that is every intelligent man and woman, is bound to demand that this question shall not be treated as the plaything of political parties, but that it shall be faced and solved without delay by the best minds and the most capable administrators that the nation can command. In other words, I claim that the provision of old age pensions, properly understood and rightly applied, is capable of being made a lever which shall lift from the poor law system the existing abuses and extravagances which attach to it. The removal of this incubus will leave it purified and strengthened, whilst reducing the cost of poor law relief to reasonable proportions, and so bring into being a new system wholly distinct from the poor law, which shall tend each year to diminish the cost of our poor relief, and to improve the morals and surroundings of the humbler workers of both sexes. These reforms would make England a country where every one who had zealously laboured during his working days would, on attaining 60 years of age, be guaranteed a period of diminished labour and necessary rest in which he might learn to live rather than to exist, and so the industrial classes, even as old people, would constitute a vital force of robust independence and noble characteristics. It is not just, nay, it is a grievous reflection on our boasted civilisation and Christianity in these days, that Mr. Ritchie's return should reveal the fact that, if we eliminate the well-to-do classes, who are above all need of dependence on the rates, the proportion of paupers over 65 to the total of the population over that age, and below the well-to-do, will be not less than 3 out of 7, or nearly 1 in 2. When we know that the cost of every one of these old persons being in-door paupers in London represents on an average a sum equal to 34*l.* 3*s.* 6*d.* a year, or 13*s.* 2*d.* per week; that the cost of every one of them in receipt of out-door relief in London represents on an average a sum equal to 17*l.* 11*s.* a year, or 6*s.* 9*d.* per week; and that it amounts to at least 26*l.* 7*s.* 2*d.* (10*s.* 1*d.* per week) per in-door pauper, and to 7*l.* 6*s.* 9*d.* (2*s.* 10*d.* a week) per out-door pauper in England and Wales per annum, it must be apparent to all thoughtful persons that the present system is extravagant and wrong, for out of all this mass of aged dependents there must be a large proportion of really deserving persons who are simply in receipt of poor law relief because of the infirmities of age and the competition of younger persons in the trades or

callings by which they have maintained themselves during the greater portion of their lives.[2]

Sir Spencer Walpole has well pointed out[3] that the majority of this large mass of the people have passed a life of toil, many of them have actually, though ineffectually, striven to provide against misfortune from the shame of having to rely on the rates for the support of their old age. If this be in any sense true,—and what man of knowledge is there who will maintain to the contrary?—then I venture to say that it is essential as a matter of national credit and national honour that such a state of things should be probed to the bottom, and that it is an urgent debt which the nation owes to its intelligence that a remedy should be found for such unnecessary injustice and much wanton cruelty. I am glad to think, although Sir Spencer Walpole did not carry his colleagues with him, that he should have had the courage to put on record this opinion. Having set forth the following stern facts in order, (a) one person out of every five of 65 years of age and upwards was in receipt of relief on a particular day in 1892; (b) one person out of every three of this age applied for relief in the course of the year; and (c) making a reasonable deduction for the well-to-do classes, one working man and woman out of every two are more or less dependent on the rates in their old age, Sir Spencer Walpole proceeds: "When these facts are thoroughly known, and their "significance thoroughly realised, it is difficult to believe that the "population, which is probably becoming more altruistic every "year, will console itself by the reflection that, bad as things are "now, they were probably slightly worse some fifty years ago. "They will repudiate the policy of nothing, and insist upon some-"thing being attempted."[4] I entirely agree with Sir Spencer Walpole's view, and if I did not agree with it I should be bound to support it, because I know, as I have already shown by the production of actual figures which cannot be upset, that the cost of this policy of nothing is an expensive policy, and one which is costing the ratepayers more than a better system combined with an adequate scheme of old age pensions would probably cost if they were brought into existence immediately.

I may be properly asked, what changes do you propose to institute in regard to the poor law? My answer is, first of all I would group the poor law authorities by counties in place of the existing local boards of guardians. I would have a poor law board for each county, because that would place all the existing

[2] "Report of Mr. Chamberlain and others," annexed to the "Report of Lord "Aberdare's Committee," p. xciii.

[3] "Report of Lord Rothschild's Committee," p. 19.

[4] "Report of Lord Rothschild's Committee," p. 20.

buildings in such an area under the control of one body, and render proper classification of the poor relatively easy and practicable. At the present time there are a large number of such buildings kept up from year to year which contain much more accommodation than is needed, and in this way a large expenditure is necessarily though needlessly incurred every year:—

TABLE *showing the* NUMBER *of* WORKHOUSES, ACCOMMODATION FOR PAUPERS, *and the* NUMBER *of* PAUPERS IN WORKHOUSES *in England and Wales on 1st January*, 1898.

	Number of Workhouses.	Accommodation for Inmates.	Number of In-door Paupers (including Vagrants), on 1st January, 1898.	Number of In-door Paupers (exclusive of Vagrants), on 1st January, 1898.	Number of Vagrants on 1st January, 1898.	Percentage		
						In-door Paupers (including Vagrants), is of Accommodation.	In-door Paupers, (excluding Vagrants), is of Accommodation.	Vagrants is of Accommodation.
						Per cnt.	Per cnt.	Per cnt.
England	574	203,610	154,240	142,859	11,381	76	70	6
Wales and Monmouth	52	9,595	8,100	7,633	467	84	79	5

Note.—The column "Number of Workhouses" has been compiled on the assumption that each union has one, but only one, workhouse. In the case of Liverpool, Manchester, and a few other towns there are more than one workhouse. The column "Accommodation "for Inmates" has been compiled from the information given in "Knight's Local Govern- "ment Directory," but the figures are only estimates, and therefore approximate. A table containing the details for each county of England and Wales will be found at the end of the paper. It has been impossible to accurately ascertain the numbers for the metropolis, as the total number of in-door paupers (69,448) includes an unascertainable number of paupers in some establishments not under the control of the Guardians, and cannot therefore be compared with the accommodation in those institutions under their control.

The first duty of such a County Poor Law Board would be to appoint a committee to inquire into the circumstances, character, and past history of all persons who were at the time in receipt of in-door poor law relief, with full authority to classify them so as to place in a separate class all who are known to be of good conduct and to have previously led moral and respectable lives. All found to be entitled to be so classed might be given the option of taking an immediate pension of 7*s.* per week per head for the rest of their lives, seeing that such a course should not entail any additional expense to the ratepayers, but the contrary, as I have already shown in giving the cost per head of in-door paupers of all classes in England and Wales. This step would enable each County Poor Law Board to bring about a large ultimate and probably an immediate saving to the ratepayers, seeing that it would reduce the number of expensive establishments and buildings now main-

tained out of the rates, the necessity for which would disappear with the granting of the pensions in question to the really honest, healthy, and respectable poor. A system like this, once commenced, might be continued without difficulty, providing the Commissioners were charged with the duty of formulating regulations for the adequate classification of all persons becoming chargeable to the rates in future, with the object of securing that the really deserving on attaining 60 years of age should be treated separately, and that their acceptance of a pension conveyed no stigma upon them such as that now entailed by the acceptance of poor law relief. As this plan would not only not lead to any increased cost to the taxpayers, but would tend to diminish the present poor rates year by year, it is at any rate worthy of careful consideration. It might be urged, the opponents of out-door relief might object to this plan, and an alternative, which I find from inquiries I have instituted amongst the poor themselves, they would have no objection to, is to provide for the aged and respectable poor in the existing poor law buildings under an adequate system of classification of such buildings. The founders of the poor law system, so long ago as 24th July, 1847, in Article 48 of the General Consolidated Order, empowered the guardians to classify certain classes of workhouse residents with reference to their moral character, behaviour, and previous habits, and on such other grounds as might seem to them expedient. Had the poor law administration in this country been carried out during the last fifty years under this Consolidated Order, with a due regard to the rights and requirements of all classes, and especially of those poor persons who are known to be of good conduct, and who have previously led moral and respectable lives, there can be little doubt that the present demand for a system of old age pensions would have been much less imperative than it is at present. That the clearly expressed intentions of those responsible for poor law administration fifty years ago, should have been so ignored by the existing boards of guardians, indicates that these bodies require reorganisation upon an intelligent system, which will secure the rights of the poor, and a more economical administration of the funds devoted to poor law relief. These reforms have become imperative owing to the demand for old age pensions, and by their instrumentality an adequate provision may be readily secured for those who have attained the pension age, or who may each year attain that age during the next forty years, the period required to enable any adequate scheme of old age pensions which the nation can properly accept to be brought into full working efficiency.

I venture to suggest, therefore, that an Act of Parliament

should be introduced to abolish local or district boards of guardians, or at least to limit their authority to that of sub-committees of county poor law boards, which latter should control the poor law administration in each county.

At the present time the country contains an adequate number of workhouses, and ample accommodation for the aged and infirm poor of every parish (*vide* table on p. 608 *ante*). The whole of the poor law buildings within each county area should be handed over to the control of county poor law boards. These county poor law boards should then classify the various buildings according to the needs and requirements of all classes of the poor in the area under their control. The accommodation is sufficient, and it is declared that many of the existing workhouses possess accommodation far in excess of the demands at present made upon the guardians who control them. The table on p. 608 *ante* shows that at the busiest season there is room for from one-third to one-fifth more inmates beyond those at present received. The most suitable buildings could be set aside as pension houses for the respectable poor, and such arrangements for their comfort and accommodation could be made, without additional cost, that the prejudice now unjustly attaching to existing workhouses would largely, if not entirely, disappear. Justice would thus be done, though tardily, to the really deserving poor who may have been left stranded in the battle of life through no fault of their own, and despite their respectability and good moral character. Other buildings within the county area could be assigned to the immoral, the thriftless, the confirmed ne'er-do-weels, and abandoned poor—classes which must find their way ultimately to the workhouse as their natural home. Such a modification of the existing poor law system as is here proposed would have far-reaching consequences. Not only would acceptable and adequate means be provided whereby the really deserving who have attained the pension age could be properly cared for as pensioners, but it would enable poor relief to be so administered as to make its restraining influence of the utmost value in dealing with the least worthy classes of the community. The condition of workhouse residence, so far as these latter classes are concerned, could then be made to possess an educational value, discipline could be adequately enforced, and restraint and punishment, where needed, could be made effective from the circumstance that the offenders would gradually come to realise that their influence for harm was destroyed, and that it was to their interest to devote all their energies to the improvement of their own character and condition. Further, and better still, the worthy and deserving poor would be freed from evil surroundings and companions; they could

then be made to feel the sympathy of their more fortunate countrymen, who recognise that circumstances have been against this class of the community, and that there is no unjust stigma attaching to a residence in these new pension houses; their friends would be encouraged to visit them, they would be at liberty to visit their friends, their health could be promoted by healthy out-door or in-door occupations, and the last few years of their lives would thus prove, it may be hoped, happy and beneficial in every respect. In the pension houses, as distinct from the workhouses, arrangements might be made for providing each inmate or every married couple with a separate room or apartment to sleep in—a point of the first importance. On moral grounds alone the present workhouse system is a failure, and no matter how careful and intelligent the administration may be, it is found in practice that the workhouses in large cities are successfully used by thieves and others as recruiting grounds for their immediate purposes. The new system might abolish this state of things for ever.

So much for the bedrock from which we must start any scheme of old age pensions. I have deliberately and of set purpose dwelt at length upon these questions of the poor law, because it is essential that they should be faced and dealt with, either contemporaneously with, or in advance of any attempt to adequately meet and settle a plan for providing old age pensions. I would remind you that, despite the sound reasons which Sir Spencer Walpole set forth in his memorandum already referred to, in the course of which he contended that the committee of which he was a member cannot be content to do nothing, Lord Rothschild's committee was, as you know, as a matter of fact content to spend upwards of two years in the production of a negation. It is no part of my purpose to set forth the reasons which led to such a result, but I have sufficiently indicated them in my introductory remarks this evening. I may perhaps illustrate one cause which led a committee, which Sir Spencer Walpole declared was appointed to do something, to be content with doing nothing. I was one of those who submitted a scheme for the consideration of Lord Rothschild's committee, which in the result proved to be one of four out of the hundred and more schemes submitted which, as Mr. Lionel Holland has shown[5] passed successfully the vigorous preliminary tests they applied to them. In their report (pp. 4 and 5) they proceed to formulate their objections to my proposals. They commence by setting out what they understood those proposals to be, and it is curious to notice that both in the summary and also in the objections which they urge against the scheme, it

[5] "Suggestions for a Scheme of Old Age Pensions." By Lionel Holland and Edwin Arnold, 1898, p. xvii.

is made manifest that, as a matter of fact, they seem to have never properly understood what these proposals in reality were. That I am not singular in this view is proved by the statements contained in Mr. Lionel Holland's book already referred to. It would be wearisome if I were to set forth all the reasons based upon a misapprehension which Lord Rothschild's committee urged against the acceptance of my scheme: a few of the more inaccurate of them will illustrate my point. The first is that the scheme embraces only a small part of the industrial classes, namely, those who do not earn more than 20*s.* per week on the average. As a matter of fact the scheme embraces every class of workers, whatever their earnings may be, and it only states the grounds upon which, in my opinion, it will probably be found the State need not supplement the provision for old age made by members of the industrial population other than those who do not earn more than 20*s.* a week on an average; in other words, it provides for the whole of the industrial classes upon a thrift basis, though it limits the State contributions to that section only whose earnings are too small to enable them otherwise to make adequate provision for their old age. The committee further found that the scheme makes no provision for other forms of saving except that known as deferred annuities. So far is this from being the case, the machinery of the Post Office is employed, whereby the industrial classes obtain an investment for their small savings by placing them in the Post Office Savings Bank, receiving thereon compound interest, and having absolute control over such savings continuously up to the pension age, and finally securing that all the money so put by should, on the death of the depositor, revert to his wife and children, or to his heirs, as the case may be. The committee object to the scheme on the ground that vast sums would come into the hands of the State for investment, a point which has no substantiality, in fact, as I shall proceed to show a little later on.

Finally, the last objection is that "it cannot be brought into "operation during the course of the present generation, and for "persons at present over 20 years of age it contemplates that "there shall be only an extensive revision of the poor law coupled "with irksome provisions." This last objection brings me to the crux of the whole problem now seeking solution. It is perfectly certain that any scheme of old age pensions which a responsible statesman can recommend and which the State could afford to finance, must be so conceived as to provide for the working out of the existing state of affairs upon a new plan capable of doing the work with reasonable efficiency without offending the just susceptibilities of the recipients or adding any appreciable burden by taxation or rates. I have shown that on the most careful examin-

ation of the figures relating to poor law expenditure, every working man and woman now maintained in workhouses in London at the cost of the poor law, costs the ratepayers in London about 34*l.* per annum, and those throughout England and Wales upwards of 26*l.* per annum, whereas the maximum sum which people who have given most attention to the subject agree is required as a provision for old age is 18*l.* per annum. It follows from this that in effect there is no reason why the really deserving and respectable poor should not be provided with a pension of 18*l.* a year instead of being made paupers, as they are under the present system, for such a step should lead to an immediate reduction in the present sum provided by the ratepayers for the maintenance of these very people who are at present treated as in-door paupers. I have shown how that provision can be made by a classification of the existing poor law buildings, whilst freeing them from a pauper taint of any kind. The irksome provisions which Lord Rothschild's Committee state are attached to my proposals for the provision of those who have attained 60 years of age and upwards have, therefore, no existence in fact. Besides, it has been shown that a very large proportion of the aged poor who require pecuniary aid could not be properly and adequately relieved by the mere grant of a pension. Much of the existing pauperism of the aged is not due simply to failure of earning power resulting from advancing years, but to sickness and chronic infirmities needing special care, which must accompany old age to a much larger extent than the period of middle life. It follows that a large proportion of the aged to be found in poor law establishments are there because their sickness and infirmities make it difficult for them to live in ordinary conditions outside.[6] In such circumstances it is essential for the well-being of the poor, as well as for economical reasons, that the existing surplus buildings now in the hands of the guardians should be purged of all pauper taint and made available for the accommodation of the respectable poor who have attained the pension age, who could not otherwise be provided for comfortably and adequately. On the other hand, the deserving members of the industrial classes who are in good bodily health might properly be given the option of taking their pension and residing outside, or, if they prefer it, they might become inmates of a pension house suitable to their circumstances and physical state. I have of course no means of ascertaining what proportion of the working men and women of 65 years of age and upwards who are at present in receipt of poor law relief belong to the respectable and worthy classes, who, after a *life of honest toil accompanied by*

[6] Sir Spencer Walpole's Memorandum, p. 23 of the "Report of Lord Roth-"schild's Committee."

an earnest endeavour to provide for themselves, have had to resort to the poor law. But, whatever the number may be, I claim to have shown that a readjustment of system will at once enable every locality to provide suitably and properly for these deserving and aged persons, without any addition to present taxation or rates. Besides, this plan will have the further advantage of doing justice to the deserving poor and giving a hope and stimulus to those younger members of the industrial classes who have not yet attained the pension age.

Again, as I have indirectly shown, it would pass the wit of man to evolve a scheme making adequate provision for old age pensions which was financially possible and statesmanlike, which would at once provide a free pension for every person who attained the pension age during every year from that in which such an Act was passed, and for ever afterwards; in other words, there must be an intervening period during which any scheme for the provision of old age pensions on a thrift basis, which is the only practicable basis, must have time to work into full operation, for otherwise the amount to be provided by taxation or rates must be so considerable, apart from the other fatal objections, as to make it impossible for any responsible minister to propose or for Parliament to sanction it. I do not think myself, and I have read much of what has been written on the subject of old age pensions, that this point has been sufficiently realised by those who most desire to set up an adequate system of old age pensions. Another consideration which has an important bearing on the question is this. Mr. Forster's Education Act has now had time to work effectually throughout the country, and the intelligence of the people is consequently higher than it has ever been before. It follows that, as education has improved and intelligence has increased, the younger population have come to realise and to understand not only the importance, but the necessity, of saving. *They would therefore welcome any sound proposals which placed within their means adequate opportunities for putting by small savings week by week.* Any such scheme must of course provide that out of such savings provision shall be made for sick pay during the illness or disablement of the individual depositor throughout the period, say forty years, of his working life. There can be no doubt that the most rational policy in regard to such sick pay would be to utilise the machinery of the friendly societies. But the members of these societies are unfortunately by no means unanimously in favour of the principle of old age pensions, because they fear that if they are excluded from its provisions they must suffer materially, and, if they are included, the State, in order to protect the small investor, will claim to interfere with their management at least in the direction

of insisting that they shall be financially sound. On this point, as the Chancellor of the Exchequer, speaking at North Shields on the 19th October, said: "They could not be too careful, and this was "almost the crux of the question, to avoid in any way injuriously "affecting the great and beneficent institution of friendly societies, "which had done so much for the working classes of the country "at large." I take it that what Sir Michael Hicks-Beach meant was, that it would be bad policy, if it were even possible, to attempt to force the hands of the friendly societies until at least a majority of their members came to the decision that it was desirable to use their influence and machinery in furthering a national scheme of old age pensions. Sir Michael Hicks-Beach further expressed the view that in the south of England at any rate there was a very strong and widespread objection to impose any charge on the rates for this purpose. He further intimated that "having regard to the present expenditure and its probable "increase in such matters as the defence of the Empire, our "existing sources of taxation could not bear the cost of any such "scheme. Would it be fair, having regard to the burdens "imposed on other classes for the benefit of the working classes, "to impose this additional burden on the payers of direct taxation "alone? These were questions which in any attempt to deal "with this subject must be borne in mind."

It will be recognised that the difficulties I have indicated tend to prove that Parliament is not likely to attempt to solve the problem by any system of compulsion, and that the utmost which can be attempted with any hope of success is by legislation to provide adequate machinery which will bring voluntary insurance, based upon a plan of small savings regularly maintained, within the reach of the humbler and so of all members of the industrial classes who, if left to save in their own way, may be guaranteed on arriving at 60 or 65 years of age, or being permanently incapacitated from profitable work at an earlier age, such an addition to each individual's savings as will provide adequately for all his needs.

The Position To-Day.

Having thus indicated in general terms points which must be initially dealt with, the requirements to be met, and the difficulties to be overcome, I will proceed to summarise them.

(1.) The existing poor law system must be taken in hand; classification of poor law buildings, as well as classification of the inmates, must be immediately introduced; and in carrying out the latter, care must be taken to place in separate buildings, wholly

distinct and apart from every other class, the respectable and deserving poor and the children.

(2.) Any scheme for the provision of old age pensions must be established on a thrift basis, and must be confined so far as bonus additions to savings are concerned, to those poorer members of the community whose average earnings throughout life are so relatively small as to make it impossible for them to otherwise secure an adequate provision against old age and infirmity. This class, according to the best data available, represents in round numbers about 24 per cent. of the 7,000,000 adult male wage earners, or 1,680,000 males aged 20 and upwards earning 20*s.* a week and under. They will include the labourers, the unskilled workmen, and the lower and poorer classes in towns.[7] These humbler denizens of our cities are of the first importance to the classes above them, for without their labour and assistance it would be impossible to get all the work done which is necessary to provide sanitation and reasonable comfort for all classes alike. Besides, as I have shown in my "Practical Scheme of Old Age "Pensions,"[7] it is impossible for those whose average earnings throughout life do not exceed 1*l.* per week, however thrifty they may be as a class, to put by a sufficient sum to provide adequately for their old age and infirmity and the necessaries of life, unless they are encouraged by the offer of a guarantee that, providing they show the maximum of thrift during their working days on attaining the pension age, they will be assured of a pension adequate to maintain them for the rest of their life.

(3.) How can the funds be provided which will afford the necessary guarantees of bonus additions to savings for the classes entitled to receive them? I have shown that the sums actually required to accomplish this on the most liberal computation need not exceed 800,000*l.* per annum.[8] Sir Henry Longley has stated[9] that the local and endowed charities scattered all over the country, which are available for the aged expressly, or applicable to gifts in kind or doles of money, or for the general uses of the poor, would place about 1,000,000*l.* a year, or, according to the last return, an income of at least 930,000*l.* a year at the disposal of the local authorities set up by the Local Government Act of 1894. The more carefully the question is examined, the more clear it becomes that before the Chancellor of the Exchequer or any local authority is asked to provide any further income than that available from

[7] *Vide* pp. 22 and 23 of "A Practical Scheme of Old Age Pensions."—"Times" Office, 1896.

[8] "A Practical Scheme of Old Age Pensions," p. 30.

[9] Vol. ii of the Minutes of Evidence taken before the Royal Commission on the Aged Poor, Parl. Paper, C–7684–I, 1895.

the sources just indicated, it is essential that the experiment of utilising these funds should be made, especially as they will probably be found sufficient for the purpose when the present system of administering the poor law is revised on the plan already indicated.

(4.) The absence of all necessity to attempt more than is indicated in (2) and (3), so far as the provision of old age pensions is concerned, at the present time, is supported, I am glad to see, by certain facts mentioned in a paper entitled "Fallacies about Old Age Pensions," written by Mr. C. S. Loch, which appears in the "Nineteenth Century" for November. I did not see this article until after I had prepared my paper, when I was agreeably surprised to find that although we approach this question from opposite standpoints, we are in the main in agreement on certain essential points. Mr. Loch states, comparing the figures of forty years ago with those at the present time, *i.e.*, the years 1851 and 1891, that the results are as follows:—(1) there are now relative to the population about half the number of paupers; (2) there are now relative to the child population less than half as many dependent children; (3) there are now relative to the adult population (aged 15—60) about two-thirds fewer paupers (the able-bodied); and (4) there are now relative to the aged population (over 60) nearly a third fewer aged paupers (21·5 per cent. in 1851 and 13·7 per cent. in 1891). It follows "that the younger "generation are continually less pauperised, with the result that "in old age there is a large decrease of pauperism." The effect of Mr. Forster's Education Act, as already indicated, has no doubt had a material influence in producing this result, and that influence is increasing year by year. A further influence for good, as Mr. Loch indicates, must result from improved administration, which causes the people to rely upon themselves more fully than they did formerly. Human nature quickly responds to "the "administration that aims at drawing out from it some of its best "natural faculties; as quickly as it shrivels up under the meddle-"someness of unguided sentiment."

The purchasing power of money increased about 25 per cent., according to Mr. Loch, between 1875 and 1892. Food is very much cheaper, and 45,000*l.* a week more was being paid in wages in 1897 than in 1896. Mr. Loch adds, and I entirely agree with him, "the cumulative argument in favour of "continued progress is thus extremely strong,—provided that the "character of the nation does not deteriorate and the administra-"tion does not become markedly worse." It follows that care must be taken not to unnecessarily set up a scheme of old age pensions which will prove in practice as great a failure financially

and morally as the pension system has been in the United States of America, or as unpopular as the universal scheme of old age pensions has proved in Germany. All that is wanted, all that a wisely governed State can consent to give, is the needful encouragement and support whereby every class of the community may have the fullest facilities to make an old age provision of reasonable amount, providing they exhibit average thrift, industry and character. There can be no doubt that there is a certain definable and definite number of the working population whom it would be good policy to encourage and to help in the direction of a provision for old age pensions. These humbler workers have a minimum power to save and that minimum is too low under the average conditions of their lives to result in an adequate provision without assistance and encouragement. Without such encouragement they must ultimately come upon the rates, and, as I have shown, not only is that economically a mistake, and a very costly mistake too, but it is bad policy, against the interests of the nation, and consequently opposed to the interests and well-being of the whole country.

(5.) It is essential to bear in mind in approaching this question, that no scheme can hope to be successful at once. It must have time to make its way, to gain the confidence of the people for whom it is intended, and to elaborate by experience the necessary machinery so as to afford the maximum of facilities whereby all classes will be encouraged to look upon old age and sick pay provision as a duty which they owe it to their manhood to fulfil.

(6.) Any Act which aims at providing old age pensions, must further be so drawn as to leave it open to the option of the local authorities and to the friendly societies, to adopt it on certain defined conditions or not as and when they please. The Act which has proved so successful in the case of the Notification of Infectious Diseases, is a form of Act which is well adapted for our present purposes. It might fix a basis of financial strength for friendly societies, and might provide that any society which attained to it should be recognised as one which could properly be selected to provide sick pay for any one who qualified for the bonus additions provided in the Act, on fulfilment of the prescribed conditions and the attainment of the pension age.

(7.) A sound actuarial basis must be arrived at. That basis I feel justified in claiming is contained in the scheme I submitted to Lord Rothschild's committee, seeing that its accuracy or soundness was in no way contested or questioned, although the committee included several eminent actuaries. An examination of the figures given in the census of 1891, and the careful inquiries

I have instituted, show that there are not in all probability as many as seven million adult male wage earners in the whole community. Of this number Sir Robert Giffen shows in the Census Summary for 1886 that 24 per cent. earn 20*s.* per week and under. I am confident for the reasons stated in my scheme that with a few exceptions, which could be easily met, it is unnecessary to arrange for the State to grant bonus additions to the savings of members of any class of the population whose earnings exceed 20*s.* a week. Assuming this view to be accurate, as I believe it to be, in order to ascertain the annual sum which the Government must provide by way of bonus additions to the savings of these humbler wage earners on this basis, it is necessary to take 24 per cent. of seven millions of adult male wage earners, or 1,680,000 males aged 20 and upwards. An actuarial calculation upon these figures shows that 43,873 males must enter annually at age 20 to keep up a total population of 1,680,000 aged 20 and upwards, the rate of mortality employed being that deduced from the experience of the Government male life annuitants. The table based upon these figures shows the total population between 20 and 60 to be 1,362,632. As the premiums for a deferred annuity are payable at the beginning of each year, the number contributing would be the sum of the members living from 20 to 60, that is, 1,395,708, which represents the number of persons who could possibly be contributors at the expiration of forty years under my pension scheme. The number of contributors during the first of the forty years would however be only 43,873 persons, whose numbers would increase year by year up to 1,395,708. Omitting the details of my scheme,[10] which has already been published, I may state that it involves an immediate maximum annual charge by way of bonus of from 607,275*l.* to 794,274*l.*, by which payment the Government could establish an old age pension scheme, which would enable the humblest classes of wage earners to place themselves in an independent position from age 20 upwards at an annual cost of less than one-fourth, or, in the alternative, of less than one-third of the actual yearly poor law charge, 2,610,000*l.*, to the ratepayers of the metropolis per 100,000 paupers at the present time. In such circumstances an old age pension scheme should make thrift popular with every class, seeing that all deserving persons could thus secure an adequate provision, whilst the sum to be provided from taxation or rates under this scheme would be probably nil, or at any rate relatively unimportant.

(8.) The next essential is that the poor guardians must be excluded from any connection with the dispensation or payment of

[10] "A Practical Scheme of Old Age Pensions."—"Times" Office, 1896.

old age pensions. Although the type of guardians has improved during the last few years, they do not as a class possess the goodwill or the sympathy, nor are they supported by the votes of any large number of people. Some of the powers vested in the guardians, and especially those relating to sanitation, have been taken away from them and conferred on other authorities, to the great advantage of the community. It would be a further step in the right direction to confine the jurisdiction of the guardians to the care and provision of the pauper sick and infirm and for the wastrels and ne'er-do-weels, whose characters and conduct make it impossible for them to be treated otherwise than in workhouses on the plan already indicated.

(9.) It is essential that the minimum weekly sum available for each pensioner from all sources shall not be, in the case of a single man or woman, less than 7*s.* per week, or for married couples less than 12*s.* per week.

(10.) In the best interests of the country, as well as from a proper regard to what is due to the respectable members of the ndustrial classes who zealously labour up to 60 years of age, and as a matter of public policy, it is desirable, in my opinion, to fix the pension age at 60 and not at 65 years of age.

Lastly, let me consider the political and legislative difficulties which have to be faced. Finance is the keystone of most practical things in this world, and the financial difficulty as affecting the provision of old age pensions is no doubt great. The present Chancellor of the Exchequer, as already indicated, declares it to be impossible and improper to raise the money necessary by the institution of further taxation. Lord Rothschild's Committee declared in effect that it would in their opinion be a calamity to set up a system of savings by the people, whereby vast sums would come into the hands of the State for investment. These two objections taken together seem to me to indicate the direction in which the solution of the problem must be sought by Parliament. I would propose that any Old Age Pension Act should be made an adoptive Act. It should confer powers upon any county, district, or parish council to adopt it, and in adopting it, to make provisions for old age pensions in the form of: (a) taking over the payment of a pension; (b) the encouragement of continuous saving upon a definite plan of small weekly deposits by the industrial classes from the earliest possible age; (c) providing for the respectable and deserving poor who are either at present on the poor law, or whose circumstances as known to the local authority may entitle them in its opinion to receive a bonus addition to their savings, sufficient to make their weekly income equal to their current necessities. Such bonus additions to be provided first

out of the income of the parochial endowed charities placed in their hands by the Local Government Act, 1894, and then, but then only, out of the rates. I would propose that each such authority should have the right to exercise its borrowing powers as, and when, required by setting aside such a proportion of each loan they may be authorised to issue as, would be equivalent to the amount of money which would come into their hands from the savings of the members of the industrial classes who availed themselves of the scheme of old age pensions embodied in such Act. This scheme of old age pensions should make it optional for friendly societies under proper regulations to grant sick pay on a fixed scale to those members of the industrial classes who decide to save regularly under the Act in order to make provision for their old age. It would be necessary for the Act to provide, and it might well be done, for the institution of a society for granting sick pay on an adequate basis; but these powers should not be exercised unless it was found by experience that the friendly societies declined to encourage old age pensions by providing the necessary sick pay at reasonable rates under adequate provisions. I would propose that the scheme of old age pensions set up by this adoptive Act, should embody the proposals in my own scheme, modified so as to fix a maximum wage limit, above which no State bonus would be payable, and incorporating such portions of what are known as the Bristol scheme, as to make this plan of old age pensions as acceptable as possible to the members of friendly societies throughout the country. The Act should also contain permissive powers which would enable employers at the request of their employees to collect at the pay table each week the savings of the latter, and to hand them over to the pension authority for investment under proper safeguards.

I have purposely refrained from drafting a skeleton Act, because it seems to me that the duty of such drafting must be left to the Government, who should, in my judgment, be urged to appoint three or five capable persons to prepare such a draft Bill, and to select them from those who have made a study of this question, and who are honestly desirous of seeing it take practical shape. If this were done, I make bold to say that an acceptable Bill in the form of an adoptive Act could be readily prepared which would establish a system capable of affording an adequate provision in old age to every member of the industrial classes who throughout life honestly endeavoured to make such provision for old age and infirmity as his means from time to time permitted. The scheme which I have in view would be calculated to prove acceptable to the most intelligent members of the friendly societies, would, by the institution of local

as opposed to State machinery, establish the necessary safeguards against fraud and imposition by unworthy persons, would enable the savings of the industrial classes to be invested through the local authorities at, say, 3 per cent. per annum. under adequate safeguards, and prove in due course that old age pensions upon a thrift basis are not only practicable, but that they are in themselves economical in fact, and constitute one of the strongest safeguards to a well administered State under modern conditions of civilisation.

I am conscious that circumstances over which I have had no control have made it impossible for me to produce as exhaustive and complete a paper as I originally intended. Still I am not without hope that I may at any rate have done something to lead a large and increasing number of persons to realise that old age pensions are practically possible and even desirable when accompanied by an adequate measure of Poor Law Reform. I assume, of course, that the politicians who have committed themselves to the principle of old age pensions are sincere, and that the best brains in the country will be brought to bear in drafting an adoptive Act which will set up and by degrees render perfect and complete an adequate machinery for the administration of what may henceforth be known as the pension department of the people.

WORKHOUSES AND WORKHOUSE ACCOMMODATION IN ENGLAND AND WALES (*according to Counties*).

[The column "Number of Workhouses in County" in the following table has been compiled on the assumption that each union has one, but only one, workhouse. In the case of Liverpool, Manchester, and a few other towns there are more than one workhouse. The column "Accommodation for Inmates" has been compiled from the information given in "Knight's Local Government Directory," but the figures are only estimates, and therefore approximate.]

Counties.	Area in Acres.	Population, 1891.	Number of Workhouses in County.	Accommodation for Inmates.	Number of In-door Paupers (including Vagrants) Relieved on 1st January, 1898.	Number of Vagrants on 1st January, 1898.
II. *South-Eastern*—						
Surrey	452,733	572,092	11	4,737	4,452	506
Kent	969,879	806,297	26	10,364	7,898	884
Sussex	947,564	554,542	24	7,553	4,875	254
Hampshire	1,047,223	666,250	26	7,758	5,457	242
Berkshire	574,298	268,357	12	3,857	2,507	253
	—	—	99	34,269	25,189	2,139
III. *South Midland*—						
Middlesex	178,754	574,999	6	2,557	3,439	212
Hertford	443,787	215,179	13	3,307	1,656	188
Buckingham	410,242	164,442	7	2,145	933	143
Oxford	490,146	188,220	9	2,666	1,486	185
Northampton	641,925	308,072	12	2,846	1,571	165
Huntingdon	207,569	50,289	3	1,072	371	28
Bedford	309,989	165,999	6	2,071	1,041	132
Cambridge	565,737	196,269	9	2,841	1,337	82
	—	—	65	19,505	11,834	1,135
IV. *Eastern*—						
Essex	904,642	761,191	16	6,353	5,129	278
Suffolk	931,134	353,758	15	5,620	2,463	98
Norfolk	1,291,170	460,362	22	9,494	3,513	156
	—	—	53	21,467	11,105	532
V. *South-Western*—						
Wilts	811,367	255,119	17	4,183	2,033	211
Dorset	616,403	188,995	12	2,559	1,204	67
Devon	1,650,705	636,225	20	6,489	3,670	246
Cornwall	886,372	318,583	13	3,418	1,359	28
Somerset	1,061,614	510,076	17	6,461	3,214	215
	—	—	79	23,110	11,480	767
VI. *West Midland*—						
Gloucester	714,763	548,886	18	7,313	4,451	278
Hereford	535,846	113,346	8	1,349	796	92
Salop	952,842	254,765	15	3,212	1,965	244
Stafford	767,102	1,103,452	16	6,650	7,254	704
Worcester	441,510	422,530	13	3,877	2,825	225
Warwick	621,833	801,738	14	7,460	6,278	487
	—	—	84	29,861	23,569	2,030

WORKHOUSES AND WORKHOUSE ACCOMMODATION IN ENGLAND AND WALES—*Contd*

Counties.	Area in Acres.	Population, 1891.	Number of Work-houses in County.	Accom-modation for Inmates.	Number of In-door Paupers (including Vagrants), Relieved on 1st January, 1898.	Number of Vagrants on 1st January, 1898.
VII. *North Midland*—						
Leicester	551,845	379,286	11	3,589	2,390	375
Rutland	110,190	22,123	2	290	144	31
Lincoln	1,659,930	467,281	15	4,258	2,078	114
Nottingham	616,285	505,311	8	2,882	2,686	239
Derby	557,768	432,414	9	2,323	2,090	267
	—	—	45	13,342	9,385	1,026
VIII. *North-Western*—						
Chester	643,791	707,978	12	4,829	4,422	273
Lancaster	1,303,777	3,957,906	33	27,931	32,099	1,625
	—	—	45	32,760	36,521	1,898
IX. *York*—						
West Riding	1,775,298	2,464,415	36	11,753	10,919	738
East „	695,431	400,085	10	3,497	2,345	144
North „	1,253,974	354,382	17	2,672	2,025	192
	—	—	63	17,922	15,289	1,074
X. *Northern*—						
Durham	764,788	1,024,369	15	4,797	5,384	303
Northumberland	1,289,756	506,030	12	3,430	2,522	207
Cumberland	970,161	266,549	10	2,470	1,477	122
Westmoreland	503,073	66,215	4	677	485	148
	—	—	41	11,374	9,868	780
XI. *Welsh*—						
Monmouth	394,424	275,242	6	1,541	1,591	101
South Wales: Glamorgan	576,308	693,072	8	2,818	3,498	
South Wales: Carmarthen	478,717	118,624	5	646	284	
South Wales: Pembroke	357,118	82,003	3	600	255	
South Wales: Cardigan	595,285	86,383	5	378	197	202
South Wales: Brecon	458,652	52,872	4	421	320	
South Wales: Radnor	238,715	17,119	2	156	118	
North Wales: Montgomery	589,846	67,297	4	960	321	
North Wales: Flint	73,380	42,565	1	163	189	
North Wales: Denbigh	386,416	116,698	4	737	592	
North Wales: Merioneth	525,802	64,726	4	340	218	164
North Wales: Carnarvon	322,135	125,585	4	670	422	
North Wales: Anglesey	120,199	34,219	2	165	95	
	—	—	52	9,595	8,100	467

Abstract *of* Sir Henry Burdett's Old Age Pension Scheme.

Any attempt to provide old age pensions, if it is to prove permanently successful, must be so devised as to avoid all risk, on the one hand, of pauperising the industrial poor, or, on the other, of infringing their sense of liberty and self-respect. Its design must be fully in harmony with the views of the wage-earning classes themselves. The scheme must be financially sound and thoroughly efficient for its purpose of providing for the aged poor, whilst at the same time it must be calculated to encourage thrift amongst all classes. Any scheme now put into operation must necessarily fail to deal with those poor persons who have reached the pension age at the time the scheme comes into operation. It will not provide for all who reach the pension age until it has been at work forty years. Those whom it does not at once cover must be provided for by the poor law, readjusted to meet their case; such readjustment to include a careful classification, not only of the paupers, but of the various workhouses and poor law buildings in each county, according to the needs and requirements of all classes of the poor, the most suitable buildings being set aside as pension houses for the respectable poor.

Sir Henry Burdett's proposals are modelled on the plan of his Royal National Pension Fund for Nurses, which has been at work now for nine years. It has attained a premium income from policy holders of 70,000*l.* per annum, the invested funds exceed 400,000*l.*, and the pensions already being paid amount to some 2,500*l.* per annum. Its inducements briefly are: (*a.*) That as the pension fund is a mutual society, all profits go to the members, there being no shareholders and no directors' fees. (*b.*) The terms of payment are exceptionally easy, members not being compelled to pay at stated times so long as premiums are received in advance. (*c.*) If they fall into arrear the policies are not immediately cancelled, but an extension of time is granted, and interest is not charged unless former payments in advance do not compensate for present arrears. (*d.*) Members wishing to withdraw, providing they have been regular contributors for at least two years, receive back the premiums paid and $2\frac{1}{2}$ per cent. compound interest, less the cost of administration, which varies according to the age of the policy. (*e.*) Should a member, for good cause shown, need a sum of money, arrangements are made to advance on loan a proportion of the premiums paid at a fixed rate of interest per annum (these loans are repayable at the member's convenience, interest only being charged on the amount actually outstanding). (*f.*) Members are allowed to deposit sums of money to meet future premiums, upon which they receive compound interest at $2\frac{1}{2}$ per cent. (as premiums fall due on the annuity policies, the requisite sum is transferred automatically

from the deposit account and placed to the credit of the policies). (*g.*) Every member entering for a pension or deferred annuity, and passing the doctor's examination, is entitled to take out a sickness and accident policy at an exceptionally low premium. (*h.*) Members have complete control over the money which they pay into the pension fund, and can will it away to whomsoever they choose by the simple process of placing the names of their nominees on the back of their policies, providing they notify the fact to the office of the fund. (*i.*) Finally, as the pension fund is a mutual society, the members receive bonuses derived from the distribution of the profits made on the working of the pension fund, and they have in addition further bonuses, being the interest earned upon a donation bonus fund derived from moneys given by persons interested in nurses for the purpose of increasing the pensions for which nurses have themselves contributed, as those pensions become due. In addition to this, members of the pension fund who, through no fault of their own, find themselves in pecuniary distress, have the first claim on the Junius S. Morgan Benevolent Fund, established in connection with the Royal National Pension Fund for Nurses.

The first step in devising a general scheme must be to find the average earnings of the humblest class of workers who may be expected to make some provision against old age and sickness. Sir Robert Giffen put the general average of wages of agricultural labourers at 13*s.* a week. These we take as the humblest class who can be expected to contribute to any scheme. A typical case may be taken of an actual labourer of this class who for forty years contributed 2*l.* a year to friendly societies. Circumstances show that it was the maximum contribution to be expected of him and his fellows.

Next, the proper amount of the pension must be determined. The Charity Organisation Society put the amount necessary to maintain a single person in tolerable comfort at 7*s.* a week. A couple would require 10*s.* or 11*s.* Thus it appears that the starting point of the scheme must be that it shall be adequate to provide at least 7*s.* a week, say 18*l.* a year, after the age of 60 for those who are able to put by a minimum of 40*s.* a year.

An initial difficulty in starting a scheme for small wage-earners is met in the fact that provision must be made for the case of interruption of earnings through illness or loss of employment. The Junius S. Morgan Benevolent Fund meets this obstacle in the case of the nurses, and in the wider scheme it is proposed that the moneys (amounting, according to Sir Henry Longley's evidence[1] before the Royal Commission on the Aged Poor, to nearly a million sterling per annum) available for the aged or applicable to gifts in kind or doles of money for the poor, should be used in a similar way to keep up the premiums of those who may be placed under temporary inability to do so for themselves.

The classes to whom this proposal would extend, in the first

[1] Vol. ii of the Minutes of Evidence taken before the Royal Commission on the Aged Poor. Parl. Paper, C–7, 684—1, 1895.

instance at least, would divide themselves into two: the male workers whose wages are 15*s.* and over, and those whose earnings amount to less than 15*s.* per week. The former class might be expected to contribute 1*s.* a week, or 52*s.* a year, and the latter just over 9*d.* a week, or 40*s.* a year, from the age of 20. From each of these annual premium payments a sum of 14*s.* a year would be set aside to provide the working man with sick pay at the rate of 10*s.* per week during the time of incapacity from illness. The money apportioned to sick fund premium would be non-returnable. This provision might be made through the agency of the friendly societies if they were willing to co-operate. The balance of 1*l.* 18*s.* in the case of one class, and of 1*l.* 6*s.* in the case of the other, would go to the provision of the pension, including the cost of administration. These moneys would carry 2½ per cent. compound interest, and be under the control of the depositor, who would agree that should he at any time withdraw a portion of the funds to his credit, he would return it with interest, so as to make up the sum standing to his credit at 60 years of age to 133*l.* (or the smaller equivalent sum in the second class), or forfeit his claim to the full pension. Such forfeiture of claim to full pension might sometimes force contributors upon the poor law, a fact which it is hoped would operate to reduce the number of such cases to a minimum. The pension age in the case of the first class of working men would be fixed at 60. The premium paid by the second class would be insufficient to secure an 18*l.* pension at that age. Thus, in their case it would either be necessary for the Government to make up the deficiency, at an estimated cost of 187,000*l.*[2] per annum, or to defer their pension till they attained 65. If the latter alternative were adopted, the cost of the pension would be 1*l.* 2*s.* 6*d.* per annum, and thus 3*s.* 6*d.* would be provided to pay for the 10*s.* a week sick pay between the ages of 60 and 65 in this case.

The scheme elaborated by Sir Henry Burdett also provides in a similar way for provision by women workers and by those under 20 who desire to put money by. It is applicable also to the case of those in better circumstances than the working man, whose case he took as his base line. The poor law, readjusted in the way indicated in the paper read before the Royal Statistical Society, would still have its mission in providing for the thriftless who would not, and the very poor who could not, provide for themselves.

[2] This sum is arrived at from the figures of the *Wages Census Summary*, where it is found that, including agricultural labourers, but 12·5 per cent. of the adult wage earners in the kingdom would fall into this second class. The whole number of wage earners in the kingdom is taken at 7,000,000. If this grant was made by the Government, it would necessarily be on the terms that the bonus would only be paid in the case of those who were in the proper class to be entitled to it, and that it was merely given for the purpose of providing an old age pension.

Discussion *on* Sir Henry Burdett's Paper.

Mr. E. W. Brabrook said they had been favoured that evening, according to the statements of the author, with a discussion of the question of old age pensions from the point of view of a practical man of business, but he had not heard any practical businesslike definition of any scheme for old age pensions. He had heard a great deal about the amendment of the poor law, and an acknowledgment that any scheme of old age pensions which was to take effect within forty years was absolutely and hopelessly out of the question. His indignation had been aroused by the author's remarks at the outset of the paper on the alleged frame of mind of the members of Lord Aberdare's Commission and Lord Rothschild's Committee. The late Lord Aberdare was a man of the greatest possible candour and fairness of mind, and also a man who possessed the deepest sympathy with the poor all over the country. He spoke with full knowledge of the circumstances, and he protested against the suggestion that such a man undertook the duty imposed on him by Her Majesty with any foregone conclusion. He disclaimed the suggestion on his own behalf and on that of the other members of the Treasury Committee. They not only investigated deeply and carefully Sir Henry Burdett's own scheme and all the other 104 schemes which were submitted, but having determined that there were good points in many of these schemes, it occurred to them that by a combination of the good points in the various schemes one might be devised which would be open to the least possible objection, and which they could recommend in their report. They devoted many days to the elaboration of that scheme, and many nights too, and considered in mature detail every line of it over and over again. They did so with the earnest hope that it might be the foundation of their report, and it was only a prolonged and careful consideration which led them to the absolute conclusion that neither that scheme nor any other could be devised which would not do more harm than good to the working classes. Regarding the present paper he said there were some valuable statistics as to the present system of poor law relief. It was extremely satisfactory to find that the number of persons receiving it had materially diminished. The necessary consequence of this was that the cost per head had increased, because it was impossible to diminish the establishment charges to the same extent that the number of paupers had diminished. The establishment must be maintained at its normal rate, and therefore if there was a diminution in the number of paupers, there would probably be an increase in the cost of each pauper. That had been established by these figures. There were also the obvious facts that the cost of keeping an in-door pauper was more than the cost of an

out-door pauper, and that the cost of a pauper in the metropolis was greater than in the country. But the conclusions which Sir Henry Burdett drew showed a most extraordinary omission on this part of the case. He said the existing cost of paupers, which included the share of administration, exceeded the amount which would be given as a pension. But was there to be no cost about administration of the pension? He compared two things which absolutely differed: the cost of maintaining a pauper in the workhouse *plus* the administration, and the cost of the pensions without any cost of administration at all. He had answered the author's suggestion that the members of the committee had taken two years to produce a "negation." If Sir Henry Burdett's scheme had been misunderstood, he thought it was because the scheme was open to misunderstanding. Sir Henry complained that they represented his scheme as only providing State aid in the form of a pension for those who could not earn over 20*s.* a week. So they did; and he stated precisely that that was all the benefit to be derived from his scheme; that all those who earned more were to buy their own pension. It needed no new scheme to enable people to buy pensions at full price. There were many agencies at work, from the National Debt office to the friendly societies, and they were largely availed of. Throughout the paper Sir Henry seemed to be under the dominion of mere names. By calling the board of guardians the sub-committee of the county council, and by calling the workhouse a pension house, they do not become a different thing. After remarking on the task of the proposed county poor law boards in distinguishing the moral and respectable poor from those who were idle and immoral, and the separation of these two classes into premial and penal workhouses respectively, the speaker pointed out that there was no provision in the estimate of the cost for the great influx there would be into these premial workhouses as soon as they were opened. Sir Henry had asserted that there were no actuarial objections to his scheme, but the report of the Treasury Committee, in which the objections to Sir Henry Burdett's scheme were drafted by an actuary, showed otherwise. But that report also showed that it was impracticable for various reasons, which were then set forth, so that they were not really called upon to consider the actual details. It was for Sir Henry Burdett to show them that it was sound, and he thought he would find immense difficulty in inducing any actuary whatever to give a certificate upon the figures laid before them that evening.

Mr. F. G. P. Neison agreed with the last speaker in his comments on the author's suggestions, as to the state of mind in which the members of the commissions had approached their task. He could not help thinking that if the paper had been a little less dogmatic, and more statistical, it would have been more in accord with the usual type of paper presented for reading before that Society. The paper professed to show how by a system of old age pensions, the present cost of pauperism could be materially reduced. But, unless the author would contend that the whole

of the pauperism in the country was attributable to the fact that persons had attained a certain age, he should have expected he would have set out somewhere some statistics showing really what the proportion of those paupers (814,000) was who were of the age that would be benefited by his proposal. Nowhere throughout the paper was there any reference to the age of the paupers in existence at any given date. Such statistics would have shown that whereas the total number of paupers was say 814,000, only 270,000 were of the age of 65 and upwards. Consequently the author's reforms would only affect that proportion. It was clearly unjust to compare the benefit which would result from his scheme with the total cost of paupers irrespective of age. There was another point on which he expected some enlightenment. In several places Sir Henry referred to the fact that great hardship was entailed on the aged poor at the present time, and the deduction one would naturally draw would be that all of those persons were practically accommodated in the house. But that was not the case. The report of the Local Government Board showed that, so far from the 270,000 paupers aged 65 and upwards being maintained in the house, materially less than one-fourth of that number were so situated. The rest were in receipt of out-door relief, and with regard to that fourth, the house was the best place for them, from the simple fact that in many cases they were through ill-health incapable of looking after themselves independently of the poor law. The speaker had had experience of many pension schemes, and the great difficulty was always that, whereas it was extremely easy to set out on a sound financial basis a pension scheme applicable to all persons now under 25, the crux of the above question was, what to do with those who were over 25. He would make the general statement that whatever status of life was taken, nobody could commence to provide an adequate pension for his old age when he had once got past the age of 25. This difficulty had evidently made some impression on the author, and therefore he proposed specially to deal with it; but how? That was a point to which he should like to draw attention. On p. 608 the author suggested that all persons now receiving relief who had led moral and respectable lives, were to be entitled to an immediate pension of 7*s.* per week per head for the rest of their lives, whether they had attained the pension age or not. On p. 606 he also gave an indication of the qualification of those pensions, viz., it would guarantee to them, not a freedom from labour, but a period of diminished labour. On p. 610 a further qualification was to be taken into account, namely, that the deserving members of the industrial classes who were in good bodily health might properly be given the option of taking their pension and residing outside, or, if they preferred it, they might become inmates of a pension house "suitable to their circumstances." If this scheme was carried out, what would eventually happen would be that on attaining 60 or 65 an immense number of the working classes would be entitled to exercise the option of either drawing their pension of 7*s.* per week, or else of living *en pension* in the

alternative houses which were suggested. This would result in throwing an immense number of persons into the labour market to undercut the existing rates of labour. In the long run it would materially diminish the rate of wage of the working classes. Further, the scheme was hardly likely to act as an incentive to thrift. The precise nature of the scheme proposed was nowhere[1] set out in the paper. That was perhaps an oversight. But it made it difficult for any one who was not thoroughly *au fait* with all that had been written on the subject to really grasp the present scheme. But it amounted to this. Persons earning more than 20*s.* a week were assumed to be well able to pay for themselves, and to secure their own pension, but with regard to those earning under 20*s.* it was suggested that the State should come forward and help them to a certain extent to buy their deferred pension. In applying this, the principle proposed was that anybody earning less than 20*s.* a week should be called upon to subscribe 1*s.* a week to a savings bank, of which 3*d.* a week would be hypothecated by paying it to some friendly society to provide for illness and sickness, while the balance of 9*d.* would go to provide a pension at 60 years of age. But it would be simply impossible for persons earning under 20*s.* a week to subscribe this 9*d.* for pension purposes. If reference were made to the returns of the large affiliated orders of Oddfellows and Foresters, it would be found that the average contribution per annum was only 18*s.* Therefore it would be altogether unreasonable to go to those of the working classes who were earning 20*s.* a week or under, and ask them to subscribe this large sum to a pension fund. That part of the paper in which the author dealt with the incidence of the burden which he proposed to cast on the State was remarkable quite as much for what it did not say as for what it did say. Some of the figures were set out at the conclusion of the paper. Taking the wage-earning classes at seven millions, Sir Henry proposed, in respect of 24 per cent. of them, to provide them with this guaranteed pension. But the necessary facts could not be found in the paper, they must be looked for in the Report of the Pension Committee. The author said that the cost of the system would be from 607,000*l.* to 794,000*l.* a year. He ventured to say that that was altogether a fallacy. What ought to have been said was that, if the Government would pay that 607,000*l.* or 794,000*l.* a year for the next forty years, this sum would, on the author's basis, provide the cost for the fund until that period, but that, when the fund had been once started, the cost would be a very much larger sum. It would be somewhere between two and two and a half millions of money. These figures would be found in the appendix to the Report of the Pension Committee. The author had made a somewhat remarkable error in arriving at his figures. In showing how to provide for this 1,600,000 persons, he said he would have to subsidise them to the extent of finding them such additional pension as they could

[1] A brief abstract of the scheme proposed by Sir Henry Burdett is given at p. 625.—Ed.

not afford to supply themselves, so as to bring the total pension up to 18*l.* a year. Now what was he really providing? His scheme was to provide a pension to those people on the attainment of an age of 60, if they so long lived, but if they did not so long live then the Government was to be let off that portion of their subsidy. But there was this extraordinary error: if the persons who were earning less than 20*s.* a week died before attaining the age of 60, the State could not be freed from all burden with respect to them, because they were the very class of persons who, wisely or not, entered into the bonds of matrimony, and, wisely or not, had families. What was to become of the wives and children in the case of those men who died before they attained the age at which they should draw the pension? The return of the contributions paid by the contributors would only very partially meet the case. Taking one with the other, one-half of these persons so provided for would die before the attainment of 65. He would not continue pointing out objections to the scheme. After a long consideration of the question he was afraid that practically the only doctrine to be adopted in connection with pensions was that of masterly inactivity. He could not conceive a greater mistake than for the Government to attempt to subsidise in any form that department of thrift which might be termed a pension. To begin with, it was a most debateable question whether a pension was the most thrifty thing a working man could go in for. It was certainly an extremely selfish form of thrift. The first call on a working man was to provide against the sickness and incapacity which practically threw him out of work, and invalidated thereby his power of maintaining his wife and children. When he had provided for that, the next step might be to join some building society, to purchase his own house. If further provision was necessary he might enter into an endowment insurance, so that if the unfortunate worker were carried off early in life there would be some provision for his family. Then he might put his money in a savings bank, and so by the aid of a little capital thereby accumulated, pass from the class of labourer to that of employer. All these projects he ventured to think ought to come before a pension for himself. There was a further scheme referred to in the paper, namely, that of providing pensions by a subsidy through the agency of friendly societies. He could not conceive a greater error of judgment than that. If there was one thing of which the nation ought to be proud, it was the immense strides made during the Victorian era, both numerically and financially, by friendly societies. The State could never subsidise and cast the burden of providing pensions on these bodies unless it first made itself quite sure of their financial stability, and to do that the State would have to become the "predominant partner," which would be fatal to the continued success of these organisations. He ventured to think that the old age difficulty was much smaller than Sir Henry Burdett thought it. The number of aged persons that they had to deal with now was double what it was forty years ago. This was consequent on the progressive rate of population. The actual figures in 1841

were some 700,000 of 65 and upwards, but at the last census there were 1,400,000. Still notwithstanding this augmented number (and it would go on augmenting year by year, because the number of aged persons was increasing at a greater rate than the increase of population), even Sir Henry Burdett was obliged to admit that the ratio of aged poor was materially less now than it was a few years ago. The difficulty in Sir Henry's way was that, as the speaker had often experienced, one could never persuade working men that there was any chance of their living to 65 to draw a pension. Now as every actuary would tell them, more than one-half of those present that evening would attain the age of 65; but the working man simply did not believe it. Thus, although the Oddfellows and Foresters, two of the finest bodies of men in the country, had started old age pension funds, nobody joined them. The railway companies, in starting their pension schemes, met with the same difficulty, but they got over it in a practical way by promising to return the money paid in by their contributors in cases where the age of 65 was not reached. Still the spread of education was no doubt doing something. The leaders of the friendly societies movement were beginning to grasp that people had a knack of insisting on living on to 65, and some of the largest of these societies, such as the Foresters, were contemplating legislation with a view to enforcing a rule upon future entrants to the Order that they should be called upon to provide for themselves a pension on attaining 65, whilst ceasing to provide for any sickness after that age. Only that day he had had before him a large organisation in connection with the railway services, in which the members absolutely laid it down that no one should in future enter the fund except on the understanding that instead of providing for sickness throughout their whole life, on attaining 65 there should be a pension. If they would only leave the question alone, they might rest satisfied that the friendly societies would practically take the matter in hand and deal far more efficiently with it than any government would do.

Mr. Ralph P. Hardy said he must protest against some of the observations which had been made by previous speakers, and regretted that no acknowledgment had yet been made of the great research and labour involved in the preparation of this paper, and of the honest endeavour it displayed to solve a great and burning question. Speaking for himself as an actuary, he must say that it was a great comfort to find at last one publicist who had at least recognised the situation, and was prepared with the only remedy which could cure the body politic. He said this in grateful recognition of the work of the author, who recognised in his language the indispensable service to our complex civilisation which was rendered by these poor labourers. He had recognised the hopeless outlook of their unhonoured old age. To clear the ground he thought Sir Henry would admit that his reference to his unique nurses' fund and to the German system of pensions (which was on too small a scale and complicated with political considerations), might be left out of the account. There then only

remained the very plain question of what they, in 1898, were to do on this question of the aged poor. Two courses were open to them. They might let the social forces have their unrestricted play and eliminate in that satisfactory way the helpless. They knew that the Romans did this in their decline, and they knew what followed. The second position was to recognise the troubles as Sir Henry Burdett did. There would always be rich and poor. They must consider as practical men that they would always have to legislate for a mass of helpless poor who had been the instruments of advancing civilisation. The ancient principle of the country had been departed from. But it was restored by the great statute of Elizabeth, to whose provisions and language he directed attention. The framers of that Act considered that the "aged poor" had a claim of a different nature to that of the "sturdy vagabond," and he would say that, if they would only carry out to-day the intentions of that statute of Elizabeth in its proper spirit, there would not be, as Sir Henry Burdett put it, this call for old age pensions. There had been a manipulation of the statute, the effect of which had been to make the relief of the aged poor a matter of degradation. He pointed out that no other solution was possible than the restoration of the spirit of the Act of Elizabeth. The author, of course, was not the first to show the extravagance of the poor law administration, or that in its resources a means of pensions existed. For the last ten years he (the speaker) had been dealing with that question himself. He compared Sir Henry's plan for dealing with the poor who elected to go into the pension houses, with the government treatment of Greenwich pensioners. Then came the difficulty, and it was here that he had to differ from Sir Henry Burdett. The weak point related to the voluntary contributions, since it was only persons who had a margin of income who could avail themselves of it; and secondly, that the uncertainty of employment in many vocations was such that no man could undertake steadily to maintain fixed payments for any number of years. Again, it was the unthrifty who were the very class they wanted to bring within the sheltering provisions of pensions. That class of men would always be a large one in a high state of civilisation, and he feared the author's scheme would not be able to deal with them. But after all, was not sometimes the best man, the man who saved nothing, and applied his income to family objects? The penurious had not made England what it was.

Mr. C. H. E. Rea agreed with the gentleman who first spoke, in expressing regret at the character and tone of the author's introduction to this important subject. A considerable part of the paper dealt with poor law relief, and did not directly touch the subject matter of old age pensions at all, but it seemed to him that some very curious deductions were drawn by Sir Henry when he referred to an old age pension of 18*l.* per annum on attaining a certain specified age, and compared that with the present rate of poor law relief, which was administered to a limited and distinct number of the working population. Later on in the paper it was

shown that for one person over the age of 65 who received poor law relief, there were from two to three of the same class who did not participate at all. Thus if pensions were to be provided, there would be a very considerable increment in this respect alone, and moreover the inseparable expense of administration would probably be as great as in the case of poor law relief. Beyond these there would still be a large mass of people having relief under the age of 65, and it is quite a wide question as to how far the poor law relief would be affected under any pension scheme that has yet been suggested with an approach to practical form: no such scheme can be conceived leading to any reduction of taxation. Assuming the possibility of the suggested workhouse or pension house reforms, he asked who would perform the delicate task of separating the paupers into their respective moral groups? In a later part of the paper the author referred to the great effect produced by Mr. Forster's Education Act, and said that people had begun to realise the necessity of saving, and "they would therefore welcome any sound proposals which placed within their means adequate opportunities for putting by small savings week by week." But the contrary was the case, as experience was showing every day that the great cost of our industrial provident institutions was due to the heavy expenses attending the introduction and maintenance of their business, a business that carries the benefits of thrift infinitely nearer the homes of the working classes than the prospects of a pension deferred till old age. Left to itself, voluntary thrift would supply no solution to this great problem, and State aid could not be brought to bear with much effect without considerably increasing the expense on the revenue. Beyond all this, there were innumerable other considerations not touched upon at all in the paper. He concluded with a defence of the poor law guardians against Sir Henry Burdett's attacks upon them.

Mr. Kirk said he was a member of the Ancient Order of Foresters, and also one of those who were fortunate enough, or the reverse, to have had the privilege and honour of giving evidence before Lord Rothschild's Committee, and he was sorry to hear the remarks the author had made with regard to that committee having formed preconceived ideas. He went away with the full conviction that the committee were striving to do their very best. He sprang from the lowest class of working men, having started at eight years of age, and having moved himself up by hard work and perseverance. Moving as he did, day by day, amongst the lowest class of the working population, he claimed to know something of their aspirations and something of their position and feelings. When the author said they could afford to pay—or ought to pay—1*s.* a week for old age pensions, he said distinctly that they could not do so; it would be a boon beyond their reach. If the Government could subsidise the efforts of the friendly societies in any shape or form, it would be helping those who were trying to help themselves. He knew from practical experience that they had thousands of members who left the

affiliated Order, year by year, from no other cause but their inability to pay their usual contributions of 6*d.* or 7*d.* a week. If Government could see their way clear to subsidise the efforts of working men in that way, he believed that that which was now a failure in the Oddfellows and the Foresters—the old age pension scheme which they had been trying for so long—would become an accomplished fact. They knew the railway companies and many large employers of labour who subsidised the efforts of their workmen. He should like to see every thrift organisation subsidised. All the clubs connected with large works and railway companies ought to be subsidised either by the companies or out of Imperial taxation. He expressed an opinion that if the working men of this country were led on, as it were, by kindness, and were helped by the Government to help themselves, that would be the best policy that could be pursued.

Mr. G. Udny Yule said with regard to the figures of the tables on pp. 602 and 604, he imagined the numbers given at the heads of the columns as in receipt of relief were the average numbers on one day; but to get the cost of the pension scheme they wanted the number of different individuals during the year, which would be about double the figures given. Consequently to get the number of people whom Sir Henry Burdett would have to pension off in order to do away with in-door relief, the figures given of those in receipt of in-door relief, on one day, must be doubled or thereabouts. That would make the pension scheme not 28 per cent. cheaper, but 60 per cent. dearer than poor relief. There was another question as to the proportion of paupers these old age pensions would be likely to touch. He had tried to make a rough estimate by first taking the number of paupers over 60 as about half the whole number. He had then looked through the details of the cases met with in Stepney, as given in Mr. Booth's "Pauperism and the Endowment of Old Age," and had come to the conclusion that not more than half of the paupers catalogued could *possibly* have subscribed for a pension. That reduced the *possible* pensioners to a quarter of the whole number of paupers, and from that quarter he would again have to deduct the large proportion of those who would not be gathered in by any voluntary system. How many, he asked, would Sir Henry's system then touch? At most it would be 10 per cent., more probably 5 per cent., of the whole number, and consequently seemed unlikely to have any sensible effect on the present rate of pauperism.

The Chairman (Mr. Charles Booth) said he had had the honour of serving on the commission over which Lord Aberdare presided to his death, and he certainly wished to say that nothing could be more clear than the good faith with which that commission's inquiry had been carried on. He had no doubt that this was equally true of the committee over which Lord Rothschild presided. His own views on this subject were very well known, and as they were unchanged, he did not propose to trouble the meeting with them. He did not believe any scheme of pensions

could be carried out cheaply. It would always be found on examination that the reason a scheme sounded economical was that one got very little for one's money, or that one did not get it for a long time. If no benefit was to be derived from the money spent to-day until perhaps forty years hence, a comparatively small sum would yield enormous results. Any expenditure which was to provide immediate benefit would have to be great. Those who thought it was a matter of great importance did not shrink from the expense, but it was only in that way he believed the subject could be adequately dealt with.

Sir Henry Burdett, in reply, said he was sorry that anything in his paper should have led to misapprehension, as had been undoubtedly the case both as to his meaning and his words. He would be the last man in the world to impugn the good faith of any man, especially of men so eminent and so entirely devoted to the good of this country as the gentlemen who comprised the two commissions which had been referred to. There was no question of good faith about it; and if Mr. Brabrook especially would do him the justice of carefully re-reading the remarks he had made, he would see what his intention was. There was no imputation on anybody's good faith, but there was a trend of mind, and it was only with reference to the trend of mind of individuals naturally working in certain directions, and only in so far as that might affect their disposition to appreciate the question, that he in any way meant to refer to the gentlemen on the commission. He hoped that explanation would be accepted. He did not think the words bore the interpretation placed upon them. It was quite enough for him, however, that if they were capable, in the editor's opinion, of conveying that impression to any mind, to lead him to request the Society's referees to remove the possibility of anything of the kind by introducing, if they thought necessary, some modification of his words. The object of the paper was to advocate old age pensions. He believed in old age pensions, and he was sure they were quite practical and possible; therefore he said they should have a reformed poor law, and such a measure of old age pensions as would give to every respectable person who had done his best an assured certainty that he should not be deserted in his old age; every such man or woman should have a guarantee that he or she might spend the period of old age, after a life of toil, in reasonable comfort and amidst respectable surroundings. That was the whole position from which he approached the subject, and they must not feel absolutely certain that there was no hope for old age pensions because such a proposal had been negatived by two commissions. Whilst he agreed with the Chairman as far as his (Mr. Booth's) comprehensive scheme went, that logically there was no alternative to a pension for everybody, still for practical purposes they could not afford to give old age pensions to everybody. They must try therefore to find something less expensive but reasonably efficacious for the purpose in view. There was not time, he regretted to say, to go into all the points raised by various speakers, and he would only say that if

Mr. Brabrook would read the report again, he would see that Lord Rothschild's Committee stated that his own scheme embraced only a small part of the industrial classes. That was a misapprehension, because if they were dealing with old age pensions on a thrift basis, and if the basis was wide enough to provide by thrift an old age pension for everybody who cared to avail himself of the system, it must include all classes. That was the point of his scheme, for it did provide that. He had not introduced the[2] scheme into this paper, because it was published and available; it was printed in full in the blue book, and was separately published as a pamphlet. Mr. Neison said the figures were not accurate so far as the actuarial calculations were concerned, because so many of the people who were embraced in his scheme would die before they attained the pension age, and that therefore, looked at from the point of view of a man of business and a financier, it was inaccurate; but the whole basis of sound finance was "adequate reserves." If those deaths had to be taken into account, that fact gave strength to his figures; for it gave the Government much more money in hand than would be the case if it had to provide pensions for all who under the calculation should qualify in youth each year for an old age pension on attaining the pension age. His scheme also provided for the whole period of life. It provided for savings; and gave the working man control over his money for the whole period devoted to saving, and of every penny he put into the scheme. Every man and woman who adopted his scheme would retain a full interest in the money, and when he died the wife and children or heirs would get the whole of the money back with compound interest. It was, therefore, a great deal more than a pension scheme. It absolutely met the point of providing for those who failed to attain the pension age, and it provided for women workers as well. Mr. Kirk had said it was impossible for a working man to pay a shilling a week; all he could say was, that he could produce a number of working men who had done that systematically, and were now reaping the benefit of their savings. A typical case was mentioned in his scheme to show the practicability of it. He knew an old gentleman who had now attained the required age. He was granted a pension, and was now receiving it. From a correspondence he had had with the Post Office, it appeared that he might have been paid that pension under the very machinery recommended in the scheme. He did not think, therefore, from a practical or a financial point of view, the objections raised that night were material or serious. Besides, the criticism that night of his figures was based upon misapprehension, and had no solid foundation in fact. He stood by the scheme, and he was absolutely confident that it was capable of meeting the reasonable requirements of the industrial classes so far as old age pensions were concerned. On the question of cost, he said there was a gentleman in the room who had given

[2] A brief abstract of the scheme proposed by Sir Henry Burdett is given at p. 625.

serious attention to the subject, and who knew his statements to be literally accurate. It was monstrous that an in-door pauper should cost 14*s.* a week, whereas a pauper lunatic, whose housing and accommodation, clothing, and medical attendance were all better than that at a workhouse, and who had everything on a higher scale in the county asylum, did not cost more than about 7*s.* 6*d.* That was the average cost in the county asylums. If these establishments, with the cost of their lands, buildings, and up-keep, could be worked for 7*s.* 6*d.* per inmate, he asked how any poor law system, which was undoubtedly of a lower type, and should be far less costly, could justifiably expend something like 13*s.* 10*d.* per in-door pauper? If he had caused a certain amount of friction by some parts of his paper, legitimate friction meant motion, and he hoped it might help to the creation of a feeling which would renew public interest in this great question, so that other minds might be led to work on it until some solution of a practical character was reached.

The Chairman then proposed a vote of thanks to Sir Henry Burdett for his paper, which was carried unanimously.

"*An* Experiment *in* Commercial Expansion." *The* Annual Address *of* The Right Hon. Leonard H. Courtney, M.A., M.P., President *of the* Royal Statistical Society. Session 1898-99. Delivered 13*th December*, 1898.

In my address last year I took up the argument of Professor Jevons on the "Coal Question," and examined how far it had been confirmed or dissipated by experience subsequent to his inquiries. The review I thus submitted to the Society seemed to me to justify amply the forecast of our late colleague. The rate of increase in the production of coal in the United Kingdom had materially declined, and that of iron had been still more affected; whilst the growth of the output of these elements of national prosperity in the United States had enormously advanced. What Jevons had foretold had happened and was happening, and it became the patriotic watchman of the currents of progress to repeat the warnings that had been given, and to impress upon his countrymen the expediency of adjusting their conduct in relation to an apparently inevitable future. Nothing that has happened in the last twelve months has diminished my sense of the certainty of the position taken a year ago. On the contrary, it has been strengthened. The movements then noticed have continued, and have been accompanied, as might have been expected, by attendant movements. Take one illustration. In no branch of industry has our predominance in the past been greater than in the manufactures of cotton. In this labour we have been easily at the head of the world; but in this we have learnt in the course of the year that the United States have outpassed us. The last statement of the total of raw cotton worked up in the two countries assigns a larger quantity to the western republic than to the United Kingdom.[1] This of itself would seem to be a portent. Yet I must confess that reason, backed by experience, appears to attract the most languid attention, and the warnings of Jevons are less heeded to-day, though attested by history, than they were when first put forth a generation since.

The reluctance to examine the argument of Jevons may be attributed to divers causes, but its existence seems undeniable. Yet it is compatible with a certain uneasiness as to our industrial position. Some are perturbed at the increasing divergency

[1] United States, 3,504,018 bales; Great Britain, 3,243,600 bales.

between the value of our imports and of our exports. We have long been accustomed to an excess of the former over the latter, and have been well satisfied with it. The balance represents what we have to be paid as the carriers of the commodities of the world, and what we receive as tribute from foreign nations and our colonies in the shape of interest or profits on capital lent or laid out within them. As we are certainly not getting into debt to anybody, this excess of value in what we received over what we gave out was indisputably gainful. In quite recent years, however, this excess has increased, and as it is not known that freights have grown to a larger total, or that the return of interest and profit has been in process of augmentation, some minds have been disquieted. They are more than half afraid that this increase in imports may correspond to a return of capital invested abroad, so that as a nation we may be living on our fat; or if this actual shrinkage of wealth is not in progress, it may be that our margin of national saving has fallen away, and that we are not sending abroad in the shape of exports as much capital as formerly seeking profitable investment. It is not my purpose to inquire which, if either, of these hypotheses be true. Both leave untouched the fundamental question, what is the secret cause of the decline—be it an actual decline or a decline in increase—of our national wealth. This criticism cannot be passed upon the reasoning of another and perhaps larger class who are not satisfied with our national outlook. These observers are also uneasy, but they have probed what they believe to be the cause of their uneasiness, and are ready with plans to counteract it. The increasing competition of our rivals in industry is the danger they recognise. If they went no further than this we might still complain they were calling attention to a phenomenon without explaining it. Why is the competition of any particular rival more dangerous to-day than it was fifty years ago? Jevons explained this, and in the absence of any other explanation his may claim to hold the field. The men to whom I now refer are not troubled with his speculations. They boldly answer that if the course of trade were everywhere free and open, competition would be no more serious to-day than it was half a century back. The spring of its mischief lies in the modern ascendency of protectionist ideas, and the energy of other governments in shutting us off not only from their own markets, but from vast spaces of the world for which they are all eagerly scrambling. This exclusiveness of other nations is our real peril. It explains, in the view of the authorities to whom I refer, the abatement of our growth, if there has been such an abatement; it points to a loss which must become real if counter-action be not taken, and

the only way to meet it is to seize for ourselves anything remaining unappropriated, so as to prevent the further extension of the policy of exclusion.

Several questions arise out of the position last stated, each of which might be examined with profit. It might, for example, be asked whether it would be enough to prevent our rivals from carrying their exclusive practices to new regions, by appropriating these regions for ourselves; whether the argument would not require that they should in turn be excluded from the remnant of the world that is left. Or, again, it might be profitable to test by figures and facts the truth of the allegation that protective policy is more rampant and effective to-day than in the middle of the century—an assumption which our colleague, Sir Robert Giffen, has given us weighty reason to believe to be ill-founded. Or, if we must admit that hostile tariffs are increasingly effective, it might be submitted whether there is not a vastly greater scope for increased commerce, by breaking down the barriers which impede it between developed nations, rather than by opening up trade with uninstructed and uncivilised masses inhabiting countries remote from our use and unfriendly to our habitation. Perhaps, if we believed ourselves in free trade, we might see some better chances of propagating our ideas, especially when we find in the other great countries of the world no inconsiderable minorities agreeing with us in opinion, and the dominant classes constantly protesting that they are forced into protection by the protectionist practices of their neighbours. If, however, we have to end by confessing that the activity of the protectionist spirit has increased and is increasing, it still remains a fit subject for the inquiry of the statistician how far experiments in opening up new markets are commercially profitable, under what conditions they may be approved, and in what circumstances they are questionable or bad.

In pursuit of the inquiry last suggested, I would like to ask you to accompany me for a short time in an examination of a most interesting experiment that has now been in progress for some fifteen years, avowedly for the purpose, if not for the exclusive purpose, of opening up a new market to a commercial and industrial nation suffering under the strain of competition from its neighbours. I refer to the case of the Congo Free State, under the personal protection and sovereignty of the King of the Belgians. The existence of this State, after some years of preparatory exploration, was formally recognised and its neutrality guaranteed at Berlin in 1884-85. The Belgian chambers, in April, 1885, formally sanctioned the assumption of its headship by their king, with the provision that the connection between

Belgium and the new State was purely personal. The experiment has enjoyed the incalculable advantage of being absolutely freed from any suggestion of interference on the part of any European State. The difficulties which have attended its development have arisen entirely from internal disorders, almost necessarily attendant on the introduction of the ideas of European control among barbarous tribes, and from slave hunting raids energetically persisted in by the Arabs, who had long made the region a hunting field for human game. Guaranteed by the circumstances of its origin and its situation from foreign attack, no army or navy has been required to defend the infant State; the forces it has have been organised to compel obedience within its borders, and to defeat those irregular marauders who attempted to maintain their ancient practice of capturing its inhabitants.

The territory of the Congo State is a vast well-defined plain contained within a ring fence, once believed to be occupied by an inland lake which, bursting through a chain of mountains to the west, emptied itself along the course through which now flows the mighty river to the sea. The configuration of the State may be likened to that of a huge water-lily leaf, with a stalk running out to the Atlantic. The area of the leaf may be roughly given at 900,000 to 1,000,000 square miles, or about ninety times as big as Belgium itself; or, again, about as much as the whole area of western Europe, including the German and Austrian empires, France, Italy, and the Iberian peninsula.[2] The length of the connecting stalk is some 250 miles, and it is about half as broad as it is long. The plain itself is extremely flat, and traversed by innumerable branches of the river like veins running through the leaf, the intervening land being at no time much above the surface of the water, and during the rainy season being soaked with overflowing floods. The trunk river itself and its leading branches are, however, open to navigation, affording, it is said, waterways to an aggregate of 7,000 miles,[3] only two or three serious obstacles presenting themselves (and those at long distances from one another) along their courses down to the point where the united mass of waters flows down the rapids which form the commencement of what we have called the leaf stalk. It is illustrative of the uncertainty of our knowledge, even after so many years' nearly continuous intercourse, that the estimates of the population of this region show enormous variations. Mr. Stanley put it as high as 28,000,000, while Dr. Vierkandt reduced it to 11,000,000. A later review of the circumstances of the State induces M. Wauters to accept the estimate of Mr. Stanley as not far from the truth, his

[2] "Partition of Africa," p. 216. By J. S. Keltie.

[3] Boulger, p. 76, makes it 8,000.

conclusion being based on the belief that the population is denser inland than it is along the river margins.[4] But it is evident that anything like an exact estimate of the population is still wanting. Mr. Scott Keltie indeed put the total, avowedly "at a guess," at 14,000,000.[5] It was this vast area which was constituted by International Act the Congo Free State, under the personal sovereignty of the King of the Belgians.

It would, of course, have been idle to expect such a territory to become at once a field of remunerative commerce. Considerable and continuous outlay would be required before a return could be realised, and the point to be determined by an investigation of its history is whether such a progress has been made in its development as to afford a promise of an adequate return, at any date which can be approximately fixed, for the cost of its creation. Some primary obstacles must be noticed.

In the first place the climate is so bad that access to the inner State has until recently been most perilous for Europeans, and though the danger of the entrance journey may be said to be surmounted by the making of the railway, to which reference must be presently made, no immunity from peril is obtained when the interior is reached, where the European is indeed beset with unceasing danger. Mr. Pickersgill, whose consular report is the latest English authority, gives a warning from his own experience to any one contemplating an excursion to the Congo, that he should be "a well salted animal or a man prepared to die;" and he adds at a later part of his report some striking sentences giving facts in corroboration of his warning. "It is estimated that of every "ten whites who become officers of the State, nine are either "buried or invalided within three years; and a calculation was "made a short time ago which showed that the employés of the "largest Belgian trading company, who number 120, only maintain "an average service of seven months out of the twenty-four for "which they contract.[6] The missionaries suffer somewhat less "perhaps, being as a rule more careful to avoid unnecessary "exposure, and also better provided with the means of combating "disease. They fall however with startling frequency; and

[4] "Journal of the Geographical Society," May, 1898, p. 551.

[5] "Partition of Africa," p. 216. By J. S. Keltie.

Since the above was written, I have had the opportunity of discussing the question with an Englishman whose length of residence in the State and knowledge of its resources are probably unequalled, and he, a very friendly observer, put the population at 5,000,000; nor would he, when pressed, extend the total beyond a possible 8,000,000. On the other hand it is right to add that Boulger says, "In assuming it to be 30 millions, one is only taking a mean figure among "conflicting estimates" (p. 319), but how he got this mean he does not explain.

[6] The accuracy of this estimate has been confirmed by the friendly witness vouched in a former note.

"amongst them, as amongst the officials and the traders, the word "is constantly being passed to close the ranks. A favoured few, "2 per cent. about, appear to be adapted to the climate in some "way or other, and not only survive, but keep strong and well. "But for those who are neither lucky as to their constitutions, "nor reckless as to their fate, life is a perpetual vigil against "treacherous fevers, and, when nerves become weakened by the "strain, an existence regulated by the clinical thermometer."

When it is remembered that the persons whose trials and fate are thus described are young vigorous lives, carefully selected from the numbers that volunteer for the service, it may be concluded under what difficulties industry and commerce must be cultivated by European superintendents, and it may be surmised that at no time within a proximate future could a body of European State servants be maintained with any permanency of its constituent elements. Climatic drawbacks alone impose the greatest hindrance to any effective organisation of the State.

If we pass from the question of the European controller to a review of the tribes to be controlled, the difficulties do not diminish. The State is inhabited by a very large number of tribes, speaking as many different languages, and it has been found so far impossible to establish any common medium of intercourse. We gather from Mr. Pickersgill that instead of speech a recourse has too frequently been made to the means of instruction employed in dealing with the lower animals, and the best of these means have not always been used. It is thought that three languages may ultimately suffice for intercourse throughout the Congo, but as yet little or no progress has been made towards this simplicity,[7] and there are indeed reasons of policy why this progress should not be accelerated. The inhabitants are not only divided into tribes of different tongues, but each community was at perpetual war with its neighbours, cannibalism being, it would seem, the ordinary means of completing the extinction of one another. Although all were exposed to the common danger of slave hunting from without, they were not less at odds between themselves; and the organisation of the new State has found in this mutual enmity a means of establishing and maintaining its own authority. Each centre of organisation is protected by native guards drawn from a tribe in hostility to the tribes surrounding the centre. These guards find their protection in rallying around the settlement, which is

[7] In the diaries of Mr. Glave, "Century Magazine," vols. liii and liv, which appear most trustworthy as a day-by-day record of his life, there are numerous cases mentioned of absolute inability to understand natives he encountered. See also C. M., liv, p. 708, touching the conduct of a functionary towards a woman whose speech he did not understand, and who did not understand him.

protected in turn by their fidelity. When internal animosity is thus the condition of safety, there is little motive to develop a common language with the common feeling it might engender, and we are told indeed that there is no ground for anxiety as to the safety of the situation, because "tribal animosities are "intenser than ever, and there is no fear of their being "soon extinguished."[8]

I do not propose to go through the several stages in the history of this difficult world. But before proceeding further notice must be directed to one point in its development. I already said that some outlay was obviously necessary at first, and in view of the conditions of the problem, it is not surprising that this outlay should become onerous. King Leopold supported the enterprise with an annual subsidy of 40,000*l.* from his private fortune,[9] but in 1890 something more was urgently required, a further international conference at Brussels authorised the imposition of import duties not exceeding 10 per cent. *ad valorem*, and upon the strength of the revenue thus made possible the Belgian legislature came to the aid of the State with a loan of one million, of which 200,000*l.* was immediately advanced, and the balance was to be supplied in annual sums of 80,000*l.* for ten years. No interest was to be charged during this period, but at the end in 1901 Belgium would be entitled to annex the State or to claim interest on the debt thenceforward at the rate of $3\frac{1}{2}$ per cent. Simultaneously with the completion of this action on the part of Belgium, the King's will was published, bequeathing the State to Belgium, with a further intimation on the part of the King of his readiness to consent to an immediate adoption of the bequest. Steps were taken to fulfil the transfer thus suggested, but the scheme did not command sufficient public approval, and it was laid aside. There is as yet no indication of what will happen in 1901.

It is now time to turn to the settlement of the State so far as it has been affected. The scheme of its organisation is avowedly based on that of the administration of our Indian Empire,[10] but the copy has been somewhat modified, as might be expected, in the direction of the prefectural system Belgium borrowed from France. The administration of the Dutch East Indies seems also to have been studied, and it is not unnatural that in matters of

[8] See special article on the Congo Railway, by a French correspondent.—"Times," 23rd August, 1898.

[9] It is understood that the king contributed large sums in addition to this annual subscription; and Boulger, p. 273, puts the total advanced by him up to 1890 at 1,200,000*l.*

[10] Cattier, p. 219.

trade especially, Belgian pioneers should adopt some of the principles and practice of their European neighbours.

The organisation thus built up is necessarily mixed in character; but however excellent the patterns followed, and however carefully the different parts were framed to fit into one another, the success of the design has been sadly hampered by the insufficiency in number and constantly changing character of the *personnel*.[11] It has been impossible to secure the presence in the State of a body of trained and trusted officials. Before a man had learnt his work his service was broken; and he did not remain long enough to win the respect of the natives, or indeed to become fully acquainted with them. The whole government within the State is entrusted to a Governor-General, who is absolute in administration and legislation until checked by Royal authority at home. He is assisted by seven directors of departments (justice, transport, finance, &c.), but they do not form a council consultative or otherwise.[12] The State is divided into districts with a commissioner over each, and the power of the commissioner is practically subject to no control beyond that of the Governor-General. There are branches of administration nominally independent of the commissioner, but in case of emergency these become subject to his authority, and he alone determines when the emergency arises.[13] A possible exception may be made of the judicial branch. But in outlying districts this has no separate existence, judicial and administrative functions being united in the same officers, so that where the control may be most needed it is most wanting. Under each commissioner is a certain number of sub-commissioners or collectors, with respect to whom M. Cattier remarks: "Il n'existes pas de dispositions claires, nettes, indiquant les "fonctionnaires et agents qui sont placés sous la direction et "l'autorité immédiates du commissaire de district, et précisant "ses droits en ce qui concerne les agents appartenant à des "services spéciaux; cette situation est regrettable, et de nature à "créer des conflits."

The imperfections of the system so established are manifest, but it may be asserted that its deficiencies will be supplied with reasonable rapidity, so as to establish a fairly complete network of administration. Quite recently a very important officer has been sent out. He may be called an Inspector-General. He takes rank immediately after the Governor-General. It is understood that his duty will be to keep up a constant inspection of the work of the several officials, so as to secure maintenance of a just standard

[11] Cattier, p. 220. [12] Ibid., p. 214. [13] Ibid., p. 223.

of conduct. But when we reflect on the size of the State, we must realise the difficulty of insuring its effective supervision by a single officer, even if his health and strength were free from all risk of failure.

Defective organisation may be remedied in time, but other faults not so easily cured are best illustrated by an examination of the actual working of the State.

Commercial intercourse being the ultimate object of the enterprise, it is of prime importance to ascertain how this has been promoted. So far it is admitted that the trade has been practically confined to the exploitation of what may be called raw products, no substantial progress having been made in industrial development. Plantations have indeed been established of coffee, cocoa, &c., about the several stations, and the success of the coffee trees is held to be promising, but these experiments are strictly limited to the centres under the immediate superintendence of the commissioners, and as yet play the most insignificant part in commerce. It seems to be extremely doubtful whether at any time coffee could be grown so as to be remunerative as an export. The mere cost of transport to the coast, however much it may be reduced, must always remain a formidable hindrance to a profitable cultivation of coffee. The main products which have been obtained and exported are ivory and rubber, and the means of acquiring these must be explained. The regulations concerning ivory have varied from time to time, and serious contentions arose as to the right of the State to reserve to itself exclusively the power of obtaining ivory within the territories it claimed to regard as Domain Privé.[14] But in the end the right of seeking for ivory has been conceded to all explorers, subject to the payment of duties which have themselves varied in character and extent, but are now reduced to an export *ad valorem* duty of from 2*l.* to 4*l.* per cwt.[15]

A similar struggle has raged over the finding of rubber, but has been settled in a different manner.[16] The territories already referred to as Domain Privé have been very loosely defined. They are described as unoccupied lands, but no attempt is made to define occupation. Under any interpretation the Domain Privé must be of enormous entent, "la majeure partie du territoire," p. 167, and the State at one time manifested a disposition to assert an exclusive right of exploitation within it. This was contested as being at variance with the liberties guaranteed to all comers by the Berlin Act, and after prolonged dispute it was settled that a certain portion of the Domain Privé, described as Domain Privé stricto sensu, should be reserved exclusively for the State, whilst

[14] Cattier, p. 168. [15] Ibid., p. 168. [16] Ibid., p. 306.

in the rest of the country concessions should be freely granted, the extent of each concession being ultimately limited to a circle of 30 kilometres ($18\frac{3}{4}$ miles) round each station, upon payment by the concessionaire of a fine or premium not exceeding 250*l.*, in addition to a tax, not exceeding one-fifth in kind, on all rubber obtained, this last tax being, however, commutable, at the option of the concessionaire, into a duty of a little over 1*d.* a pound.[17] The situation may be practically summed up by saying that the finding of ivory is open, subject to the export duty, whilst the finding of rubber is restricted to the State functionaries within the Domain Privé stricto sensu, and elsewhere open to concessionaires upon payment of license duty and a tax in kind commutable into money. It may be added that regulations are made prescribing the method of extracting rubber so as to prevent, if possible, negligent destruction of rubber vines. But the best authority represents these regulations as being in fact almost entirely neglected. Some experimental plantations have been made of Para rubber, but they have no economic importance.

So much applies to the working of unoccupied lands. But the natives who dwell in the occupied lands have also to contribute to the collection of ivory and rubber. Each government station is a centre to which tribute is required to be brought from the surrounding country, the amount being subject to no definite regulation, and dependent in fact on the discretion, the zeal, and what may be euphemistically called the commercial instinct of the person in charge.[18]

Tribute may be raised in a more or less direct and summary fashion, but where rubber or ivory is obtained by concessionaires, some forms must be adopted to secure the working of the concession. All contracts for labour are subject to regulation, among others requiring that they shall not run for more than seven years, and must be visaed by the commissioner of the district.[19] But it can be easily understood how imperfect must be the supervision of the execution of these agreements, however correct they may be in their primary form. The actual nature of the working of the system must ultimately depend upon the character of the agents employed, and it would seem that in their relations with the natives little distinction is practically drawn between the functionaries of the State and the functionaries of the trading companies. Something may be learned from the action of the former in the collection of tribute. It must be remembered that the organisation of the country, though fairly complete on paper, is defective and confused in fact. Military and civil functions are often, as has been said, discharged by the same person in the

[17] Cattier, p. 307. [18] Ibid., p. 244. [19] Ibid., p. 405.

subordinate stations. Where a solitary white is placed in authority he cannot effectively supervise all that is done by his trained, but not civilised, forces. If in his judgment enough revenue is not brought in, raids are made for the collection of the deficiency, and incidental to the raids captures are effected of men, women and children, as well as of things.[20] In the journal of Mr. Glave he repeatedly condemns the sending out of companies of natives without a single white to requisition villages which are backward in making returns and to punish them if they resist. The inhabitants, not unfrequently, fly from these harrying bands, and their villages are destroyed and possessions plundered. Their women and children are led away captive if not in lasting slavery, yet as hostages, to be kept until ransomed by an adequate tribute. The children are passed on to missionary priests at their stations, and though well treated when brought under their care, the death-rate remains portentous, and the suffering and deaths *en route* make up a much worse picture.[21] They are generally extremely young, it is difficult or impossible to provide them with their customary or any wholesome diet. They contract fevers and other diseases *en route*, and when they are handed over to the care of the priests and nuns too many are already dying. At the station of Kinoninza, where the accommodation is said to be sufficient for about 100 children, 300 had been buried when Glave passed by in 1895, a number which has since risen to 500. Women remain as slaves, working the gardens and plantations about the stations, and they were described in one centre, where a good character is given to the white captain, as fastened together with ropes round their necks a yard and a half apart, unclothed and ill-fed.[22] Captive men are held in servitude for a term of seven years, after which they may be freed, but the history of the State has little to tell of the subsequent life of those who have survived the seven years. Out of such captives, the soldiers and porters, of whom more must be presently said, are developed, though in the case of any emergent necessity special orders are issued upon subject chiefs for the supply of men.

In connection with all this must be noted the fact that there are no fixed scales of salaries for the State functionaries, other at least than the judicial personages and the marine; that such pay as they receive is insufficient, and that it is augmented by percentages on the tributes of ivory and rubber they are successful in exacting.[23]

It may be summarily stated that if slave hunting and slave raiding from without are abolished, it not only remains within the

[20] Glave, "C. M.," liii, pp. 208 and 209; liv, p. 705.
[21] Ibid., liv, p. 710. [22] Ibid., liii, p. 913. [23] Cattier.

State as a native institution, but is established on the part of the State itself as being for the time at least a necessary element in its own constitution. The defenders of the State do indeed insist that the worst characteristics of what they regard as a period of transition are passing away. The last three years are claimed to have worked a wonderful change. Coercion is still necessary to keep the native at labour; the villagers on the border of the French Congo fly across the frontier at the approach of the representatives of the State;[24] but those who have been subjected to any training have learnt the wisdom of submission, and gangs tied together are things of the past. Moreover the natives do receive some allowances when they bring in the required tributes. These representations are probably true at the best settled and most accessible stations, but further inland no such transformation can have been effected, and it is admitted that the old characteristics remain in these more removed districts, especially within the areas of concessions of adventurous companies. The agents of these companies employ within their jurisdictions the same method of extracting supplies as the State agents, and are certainly not more scrupulous in their processes. M. Lothaire, whose name is sufficiently well known as a State official, very summary and thorough-going in his action, is no longer in the State service, but has returned to the country as the manager of the Société Anversoise, in which capacity he has exceeded all competitors in the extent of his return, or in other words in the extent of his exactions. His success has resulted in the supply of 100 tons of rubber a month, nearly double the quantity procured by any other company. To do this he has collected forces of his own, but in case of need he has also a recourse to the assistance of the forces of the State.

We may thus picture to ourselves a country dotted over, though at long intervals, with centres of collection, where white men or a white man has his headquarters, surrounded by his guard, which is also his collecting force, to which centre produce is brought by way of tribute or as to a forced market, and whence if produce does not arrive in sufficient quantities, detachments issue on foraging expeditions to beat up supplies. Any one can understand how easily such a system can degenerate into plunder and slavery. And the character of the Government has necessarily suffered deterioration through the constant changes of the *personnel* already noted of the officials themselves. The extent to which the evil could run may be illustrated by the example of one Captain Rom, in command of a district, who allowed himself to

[24] Glave, liv, p. 709.

ornament his flower bed by marking out its border with the heads of twenty-one natives who had been killed in an expedition organised to punish a village which had revenged itself on the robbery and violence of the State soldiery by killing and eating two of its tormenters.[25] It is right to add this act of Captain Rom is condemned as bad taste on his part by apologists of the Government, though he was not removed from his commands in consequence of it.

No review of what may be called the industrial organisation of the Congo can be complete without some account of the system of transport employed. The horse does not live in the State, and could not be kept, except perhaps on its extreme eastern fringe. A few cows of special breed are to be found at two or three stations, but the ox has never been trained to labour, and it is doubtful whether it could be used for transport. The elephant has never been trained in Africa, nor is the camel found in use in the Congo. In the earliest days of Belgian exploration, four elephants were brought from Asia; but two died almost immediately, and the second pair rapidly followed the first, and the costly experiment has never been repeated.[26] The bearer of every burden is man, and the institution of a service of carriers was a first necessity of life in the State. Whatever produce is collected in the form of tribute or by way of exchange must be transported to the coast, and until the railway was completed, connecting the plateau with the Congo mouth, everything had to be carried on the heads of porters. All subsidiary transport that is conveyed from the interior to the river steamers, and all transport in the reverse direction, has still to be borne by porters. The evidence is too complete that railway and steamers have not come too soon to prevent a depopulation through the system of forced labour imposed in the way of porterage.[27] Men for this work were obtained by the same mode of impressment that was employed for other labours. They were often collected with difficulty, and some were apt to disappear before the time of starting. Theoretically they were engaged on terms of service which had to be sanctioned by district officers, and their employment was fenced round with many restrictions, which M. Cattier stigmatises as excessive, and maintained for the sake of revenue.[28] But the practice varies in reality from place to place, and it seems doubtful whether the nominal restrictions have anywhere the effect of hindering recruiting. When the bands are made up, the goods to be carried are distributed at the rate of 66 lbs. per

[25] Glave "C. M.," liv, p. 706. [26] Boulger, p. 23.
[27] Glave, "C. M., liv, 713, "Times," 23rd August, 1898.
[28] Cattier, p. 412.

man, the load being always carried on the head. Along the more frequented routes there are recognised halting places at distances necessitating a long day's march, but with little provision for shelter, and with no means of providing for the sick or disabled.[29] There is evidence that men not unfrequently fall out, and are left by the wayside;[30] and, indeed, the route now superseded by the railway is perhaps too vividly described as lined with skeletons.[31] In the journal of Mr. Glave there is a matter-of-fact record of the traveller encountering these relics. The usual practice seems to have been when a man became incapable of keeping his place in the file, to take his load and distribute it among his fellows, leaving him to crawl on or fall by the path as might be his chance. The particular route now traversed by the railway has necessarily been the best known in the Congo, and was perhaps the most fatal to life, owing to its alternate seasons of excessive heat and torrential rains. We cannot be surprised at the statement that before the railway was opened, the villages along its course were deserted, and the population disappearing. It is also asserted that the weights allotted to the carriers were reduced, as boys had to be enlisted. But this statement is contradicted, and it is explained that while boys did undoubtedly join the caravans, they did so only because they liked to be with their fathers, and not from any necessity to resort to their immature powers. It may, indeed, be expected that the transport service, like the other forced labours imposed upon the natives, would have become regularised by use, and there is evidence that at some centres great improvements have been effected, large and well-trained supplies of men being there found ready and willing to undertake any transport that was required. However this may be, the railway to Stanley Pool was happily opened this year, and, in conjunction with steamers on the upper river, now affords a substitute for the human caravans.

It would be out of place to enter upon the difficulties and hardships attendant on the making of the railway to Stanley Pool. In despair of other labourers, some 500 Chinese were at one time imported; but death wrought such havoc among them, that after a few months a remnant of 100 deserted and started eastward across Africa to meet the sun, from which they knew they had come. It is believed that not one of them survived. The railway was ultimately made by Senegalese and blacks from Sierra Leone, although it was necessary to keep these bodies at work on different sections, as it was impossible for them to agree peaceably together. After eight years the railway was completed, in length 250 miles,

[29] Glave, "C. M.," liv, p. 712.
[30] See M. Delcommune's account, Boulger, p. 142.
[31] "Times," 23rd August, 1898.

the gauge being something over 2 feet 7 inches, at a cost slightly exceeding 10,000*l.* a-mile (2,600,000*l.*). Out of this capital one million has been provided by the Belgian State at a reduced interest of 3 per cent., which, moreover, is deferred.

The review thus rapidly made brings us up to the situation as it exists. The country has been explored, means of communication have been established from the sea into the interior, government stations have been built, and companies of concessionaries have set up their factories. The apparatus of a commercial organisation is fairly complete. It remains to be seen what effect has been produced upon the inhabitants, and how far the experiment has succeeded in the creation of a market. Before the advent of the State the tribes were constantly at war with one another, cannibalism was common if not universal, and they were all exposed to the slave-hunting raids from the east. Nevertheless a certain balance of existence was maintained, nor is there any suggestion that the population was diminishing. The history of fourteen years has witnessed what may be believed to be a complete destruction of the slave-hunting Arab power. But the story of the campaigns against the Arabs, as told by Mr. Hinde, proves that if cannibalism is not regarded as quite proper among natives in contact with Europeans, it was in no small degree the resource of the commissariat of the forces led against the Arabs. The question has indeed been asked with some simplicity what other means there could be of victualling such a force. Other statements are not wanting to prove the practice is not extinct. But it is noteworthy that cannibalism is reported as having always been exclusively confined to men, women having never reached this diet. Internal wars may also be believed to have greatly diminished, if they have not disappeared. When, however, we turn to slavery, it is too plain that it remains in fact if not always in name, and it may be doubted whether its last condition is not at times worse than its first. The life of the libérés is a mockery of their name.[32] The term is applied to those captives, men, women and children, who are the prize of successful raids upon villages that do not bring in sufficient quantities of rubber. The libérés are indeed so-called because they are supposed to be freed from slavery, and those who first received the designation were probably slaves who had changed their masters. But the term seems now applied to all who have passed under the immediate bondage of the State for at least a term of seven years. How little the condition of liberation is relished, may be judged from the statement that these liberated persons have been transported to the place of their employment chained together lest they should

[32] Glave, "C. M.," liv, p. 709.

escape by the way.[33] What effect upon the numbers of the population has been produced by the installation of the State it is impossible to determine. Equally confident declarations are made that the population has increased and has diminished. But in view of the excessively divergent estimates of the total population, it is hopeless to arrive at the truth on this point. It may be concluded that at the cost of much suffering and, as a consequence of some severity, a certain amount of drill has been introduced among the people, and a proportionate quantity of work obtained from them. But if we were concerned with the history of the Congo as a philanthropic and civilising experiment, we should have to contrast the degree of success obtained with what might have been accomplished by the milder, if slower, methods of missionary enterprise. My object, however, is to deal with the Congo as a field for the expansion of trade, and to examine its condition as showing the degree of success of a commercial enterprise, and to this view it is now necessary to turn.

First as to the railway. Its cost has already been given at 2,600,000*l.* for a length of 250 miles. As it has been opened only since March last, it is impossible to pronounce any final judgment on its success, nor would it be fair to gauge its ultimate return by what was accomplished through the different stages when one section after another was brought into working. These results however may be worth stating:[34]—

	Period of Working.	Receipts.	Expenses.
		£	£
First 40 kilometres	July, 1894, to July, 1895	6,464	—
„ 82 „	„ '95, „ '96	33,780	—
A length varying from 188 kilometres upwards	„ '96, „ '97	179,446	124,396

It must be observed however that the receipts for the last twelve months, 1896-97, include a sum of 78,366*l.*, being the estimated charge of carriage of materials used in the completion of the line, whilst the receipts of the former years are apparently restricted to cash receipts. In order to make the comparison just of the last year with the preceding years, it is necessary to deduct this sum, which leaves us with a cash receipt for 1896-97 of

101,080*l.*

It is necessary to make this deduction also if we wish to make a comparison with the receipts of the subsequent months, the

[33] Glave, liv, 707.

[34] "Rapports du Conseil d'Administration, 1898," and "Recueil Consulaire," p. 278.

returns of which give us cash receipts only, amounting in the ten months July, 1897, to May, 1898, to

165,978*l.*

Whilst these deductions have to be made for the sake of securing a just comparison, it is not implied that the company are not in the right in including among their receipts the amount due for carriage of their own materials employed in completing the line.

Any trustworthy ratio of the working expenses of the line to the receipts is at present unobtainable. The figures for 1896-97 already quoted include a nominal sum for expenses exactly equivalent to the nominal sum included in the receipts, and these are the only figures forthcoming. If we took the totals as they stand, they would show an apparent ratio of something like 70 per cent., and if the actual cost proves not to exceed this ratio, the increase in revenue of the line would leave a margin sufficient to pay a good dividend on the capital. The revenue of the ten months showed a continuous rise, ending in a receipt in the month of May of 26,000*l.*; and though no detailed reports have since been made, it has been confidently predicted that the monthly receipt will soon reach, if it has not reached, 40,000*l.* The expectations of shareholders may be measured by the fact that shares of 500 frs., which had fallen in 1895 to 320, had reached at the beginning of this year 1,175. It must be added that the receipts of the line are based upon an excessively high tariff of tolls. The charge for a first class passenger for the 250 miles is 20*l.*, being at the rate of 2 frs. a mile; and though a second class passenger (there are only two classes) can be carried for 2*l.*, this applies simply to the transport of natives, who are accommodated in the roughest fashion. The carriage of merchandise is charged at different rates, varying from as much as from 4*l.* to 40*l.* a ton for the 250 miles, the latter being the charge on the carriage of ivory, or, roughly speaking, from 4*d.* to 40*d.* per ton per mile. If the railway is to fulfil the hopes entertained of it in developing the resources of the State, these charges must be considerably abated, and this may perhaps be accomplished if at no earlier period, then at the end of ten years, when the State becomes entitled to assume the possession of the railway.

Before proceeding further with the trade results of the Congo State, it may be well to take note of its cost. It must always be remembered that the Congo State is primarily a commercial enterprise. Philanthropic aims might be fulfilled in the course of its progress, but the first object was to secure an outlet for population and industry. The State has indeed been, not incorrectly, described as a company chartered by Europe, with the King of the Belgians as life president. Such a project involved an initial expenditure of capital, but as originally contemplated

it should, so far as current expenses go, be very soon self supporting, and if further capital had to be expended, it should be for those works only which, when completed, were worth to a buyer what they cost. It has already been stated, however, that by way of contribution to the enterprise, the King has given from the outset an annual sum of 40,000*l.* of his own money, and how, this proving insufficient, a new arrangement was made authorising customs duty, upon the strength of which the Belgian Parliament contracted to advance 1,000,000*l.* A system of taxation was devised in many or most of its details more calculated to hinder enterprise than to produce satisfactory financial results. Sydney Smith's satire reminds us that something like it existed in England in the days of our grandfathers, or we should be tempted to condemn its ineptitude with too much freedom. Mr. Pickersgill in his last consular report has given a vivid description in which the taxgatherer follows every step of life. He says:—

"But in order to realise the full scope of the State's administrative activity, let a new settler in the country be followed to his destination—say a native town situated on the main river, 1,000 miles from the coast—and let notice be taken of the taxation to which he has to submit:—

"1. Landed at Matadi, and having travelled by rail as far as the railway line is open, he requires porters; but before he can engage any he must pay for a license.

"2. Provided with that he may form his caravan, but every load in it will cost him another tax, and if he does not get the men through to Stanley Pool within a given time the payment has to be repeated, although the Government reserves to itself the right to seize them on the road for its own purposes.

"3. For the navigation of the upper river he needs a steamer, and may have brought one with him in sections at enormous expense. A tax is levied on that also.

"4. But his vessel cannot go more than a day without renewing its fuel. There is abundance in the forests, and it benefits the timber to remove the dead wood. A license to take it, however, has to be paid for.

"5. Not being able always to land directly from the steamer, he needs a rowing boat, and is taxed for that as well.

"6. Ashore again he finds himself wanting a house. Native huts are out of the question in that part of Africa; he must build. The people would give him a piece of land no doubt, but he is not allowed to accept it. He has to lease his plot from the State, and pay according to measurement.

"7. For building timber is required. He has to cut it himself, but it is taxed all the same at so much a log.

"8. Aware of there being no skilled workmen in the place, "he has taken a few up with him from the coast. For leave to "make use of them in State territory he is taxed according to "their number, and if he employ any of the aborigines to assist "in the work there is a payment due on them also.

"9. In respect of the finished house, a tax is levied proportionate to the surface it covers, although he has paid already for "the entire plot. He is at liberty, if I am not mistaken, to go "as high as he pleases without additional payment; but if, for "the sake of air and shelter, he adds a verandah or a balcony, "the extra space is measured for taxation.

"10. A necessary adjunct to a tropical house is a detached "kitchen. That carries another tax.

"11. And the settler must pay again on a hut for his domestic "servants.

"12. The skilled workman also requires to be housed. A "rough shed, partially walled, is sufficient both for sleeping room "and workshop, but there is a tax on that too; and if the "employer attempts to save the expense by utilising the space "beneath the flooring of his pile-built dwelling, he finds himself "mistaken. The area occupied is measured again, and the tax on "the building increased.

"13. Being of a humane disposition, the settler considers his "labourers as well, and makes another shelter—a low roof on bare "poles—for them and the crews of passing steamers, who always "sleep ashore. This is caring for the State's own people; but "there is a tax to pay nevertheless.

"14. And another is due on a house for his feathered live stock. "It was no exaggeration to speak of the hencoop being registered.

"15. And yet another is leviable on a house for the goats and "sheep. Now goat houses in the Congo Independent State are "of two kinds. Four mud walls and a roof without gables form "an ordinary goat house, which is taxed as second class; but "such buildings expose the stock to robbers and predatory "animals too much to be always safe. Some people therefore "go to the expense of carrying up the end walls to the ridge "pole; then the structure becomes a goat house of the first class, "and is taxed accordingly.

"16. I may sum up this portion of my remarks and conclude "my report by quoting the jocose observation of the English and "American missionaries, who declared to me that there is nothing "free in the Independent State except fevers; while a Belgian "Father, with whom I had some conversation on the subject, "remarked, 'The Government taxes even the civilisation we "'bring.'"

In spite, however, of the system of taxation thus described, and in spite of royal gifts and Belgian loans reckoned as income, the budget of the State has in no single year shown an equality of receipts with expenditure. And it must be noted that we are dealing with budgets only. The "Bulletin Officiel" has never published a balance sheet of receipts and expenses; what it has given year by year are prospective estimates of income and expenditure, and the Congo State would have a different experience from most, if the actual expenditure did not exceed, and the actual estimate did not fall short of, what had been estimated. Such as they are, however, the budgets of the several years must now be given.

Estimate of the Revenue of the Congo Independent State, 1891-96.

	1891.	1892.	1893.	1894.	1895.	1896.
	£	£	£	£	£	£
1. Belgian loan, and king's contribution	120,000	88,019	116,119	120,000	120,000	120,000
2. Ivory and rubber of Domain Privé	—	34,400	9,482	12,000	50,000	48,000
3. Customs	29,238	28,114	36,892	46,324	47,811	68,800
4. Other sources	8,153	35,006	55,254	19,665	22,374	43,300
Total	157,391	185,539	217,747	197,989	240,185	280,100

Detailed Estimate of the Revenue of the Congo Independent State, 1897 *and* 1898.

1897.	£
Advanced by Belgian treasury	80,000
Contributed by the king	40,000
Net revenue from ivory and rubber collected by State	140,000
Duties on exports	52,000
,, imports	28,800
Transport and other State work	18,080
Profit on postal service	3,400
Taxes, property and personal	2,480
Maritime dues	1,400
Sales of land and timber	1,220
Tolls on caravan routes	600
Judicial fees	600
Registration fees	212
Taxes on portage	200
,, wood cutting for steamers	80
"Droits de chancellerie"	100
Exploitation of Mazombe forests	800
Profits on State coins and notes	4,800
	374,772

1898.

	£
Advanced by Belgian treasury	80,000
Contributed by the King Sovereign	40,000
Net revenue from ivory and rubber	268,000
Duties on exports	96,000
„ imports	44,000
Transport and other work done by State	20,000
Profit on postal service	4,800
Taxes, property and personal	3,800
Maritime dues	1,400
Sales of land and timber	1,220
Tolls on caravan routes	200
Judicial fees, &c.	1,200
Registration fees	268
Taxes on portage	80
„ wood cutting for steamers	270
"Droits de chancellerie"	160
Exploitation of Mazombe forests	2,000
Profits on State coins and notes	1,200
"Produit du portefeuille"	26,000
	590,598

B.—*Expenses of Government, Congo State. Chief Items and Totals during the Years* 1891-98. (*Budget Statistics.*)

Year.	Amount.									
	Administration.	War and Police.	Marine.	Medical.	Public Works.	Agriculture.	Education.	Finance Department.	Justice and Foreign Affairs.	Total.
	£	£	£	£	£	£	£	£	£	£
1891....	22,986	90,865	13,167	4,036	8,508	—	—	10,618	5,041	208,168
'92....	27,729	65,434	10,716	3,622	19,456	4,260	8,000	16,570	6,325	215,443
'93....	28,903	85,059	15,691	4,057	20,394	2,784	3,176	15,050	7,048	252,090
'94....	28,950	132,348	17,989	5,336	27,899	2,753	7,020	15,050	8,628	347,713
'95....	29,677	142,266	15,890	6,201	21,885	4,144	7,020	14,890	8,388	338,310
'96....	35,904	192,831	21,070	8,458	24,577	13,561	6,069	14,890	11,088	329,452
'97....	61,545	197,761	37,679	10,776	27,353	30,041	5,168	17,804	13,344	405,674
'98....	72,411	274,825	77,821	14,212	55,838	21,346	6,978	151,624	15,028	690,080

Note.—The totals include smaller items not enumerated.

It must be repeated that these are prospective figures, and realised figures cannot be traced in the "Bulletin Officiel." In February last, however, a report was presented to the King giving what purported to be the totals of revenue collected in the State, with the statement of the percentages of these totals to the expenditures of the successive years, and although it is impossible to verify these figures, or indeed to make them harmonise with

other returns, we may calculate what are the totals of income and expenditure indicated by them. The results are shown in the following table:—

	Revenue Collected in Congo Free State.	Actual Expenditure of Congo Free State.
	£	£
1891	52,781	182,191
'92	60,100	189,291
'93	72,699	217,661
'94	98,191	295,311
'95	144,000	306,383
'96	235,496	414,386
'97	367,334	538,533

The figures thus elaborated show an improvement, but they still leave an unbalanced deficiency in every year, including the last, and it must be repeated they are inferences only, harmonising so little with the estimates that reliance cannot be placed on them. The published budgets do give us details from year to year, and we must go back to a consideration of the budget of the year now reaching its close. The actual revenue is only 470,602*l.*, and the expenditure is 690,079*l.*, more than one-third being on war and police. The item charged for public works is relatively insignificant, and if it was struck out altogether a slight deficiency would remain, even after giving credit for the royal subsidy and national loan. There is no prospect of equilibrium being so attained in 1901 that State help might cease, and if this and the royal gift were now withdrawn, the result would apparently be hopeless insolvency. Mr. Pickersgill indeed refers to the item of State receipt from rubber and ivory for 1897, 140,000*l.*, and takes comfort in the thought that this represents a return at "the rate "of 9 per cent. compound interest" on the sums advanced by Belgium and the King. It is not easy to verify his calculation, but assuming it to be quite accurate, it is obvious that this revenue cannot thus be detached from the administration of the State. It is the tribute exacted from the natives within the Domain Privé, and this tribute would not be realised unless the expenditure on war and police, and indeed every other item, were incurred. No such rent would ever be received if the active and costly organisation were withdrawn. If however we could contemplate this item as separable and removable from the State budget, the result of its withdrawal would be simply to leave the administration in a more hopeless condition of insolvency.

These repeated deficiencies have of course been followed by an accumulation of debt. We have already referred to an advance of 1,000,000*l.* by the Belgian State, but this has not stood alone.

Before this arrangement the Congo Administration had issued bonds to the extent of 2,800,000*l.*, and after this assistance was given Belgium came again to the rescue, and in June, 1895, advanced a further loan of 272,000*l.*, and yet by June, 1898, the Congo Administration was forced to obtain authority to borrow 560,000*l.* The total debt would now seem to be at least 4,500,000*l.*

Lastly, how far has the Congo State proved an outlet for surplus population and a market for Belgian industry? As to the former, the white population in the State numbers about 1,678,[35] of whom 1,073[36] are believed to be functionaries, and the rest are mainly missionaries and the agents of trading companies. Many missionaries and some traders anticipated the installation of the Congo State, but if we put all the white inhabitants to the credit of its design, the outlet cannot be said to be considerable, although it may be admitted that an excessive mortality causes this outlet to be too continuous. As for trade, the customs returns of imports and exports give us a view of the total created.

TABLE I.—*Exports.*

[Values in £'s sterling.]

	1887.	1888.	1889.	1890.	1891.	1892.
India rubber	69,723	83,125	85,462	123,214	92,793	73,663
Palm oil	32,055	31,992	39,279	62,550	49,077	22,785
Ivory	73,644	81,396	101,133	202,834	132,724	156,235
Cocoa nuts	38,891	47,784	52,374	98,584	74,574	33,583
Other exports	90,005	51,396	64,652	77,209	72,256	14,933
Total	304,318	295,693	342,900	564,391	421,424	301,199

	1893.	1894.	1895.	1896.	1897.
India rubber	73,972	99,068	127,868	298,623	357,075
Palm oil	29,084	41,751	41,464	35,617	27,765
Ivory	152,289	208,411	253,371	194,126	240,167
Cocoa nuts	39,910	59,346	53,253	51,349	48,008
Other exports	5,336	32,692	9,470	23,928	25,266
Total	300,591	441,267	485,426	603,643	698,281

[35] "Census Return for 1898." Boulger, p. 338, vaguely puts it at 3,000 to 4,000.

[36] Boulger, p. 294.

TABLE II.—*Imports.*

[Values in £'s sterling.]

	1893.	1894.	1895.	1896.	1897.
Arms	33,540	36,230	20,520	25,690	49,564
Drink	40,525	44,949	45,473	45,393	58,774
Foods	63,559	76,144	76,503	98,494	152,484
Machines, &c.	29,331	28,074	28,382	58,304	109,654
Metals	35,776	56,924	37,119	98,521	129,894
Fabrics	113,899	134,756	151,806	184,961	225,310
Other imports	89,306	97,083	107,330	130,266	211,408
Total	405,936	474,160	473,441	641,629	937,088

These figures show a considerable increase in the last year, when the total of exports and imports reached 1,635,368*l.*, and it is of course hoped and expected that with the completion of the railway a further large increase will be realised. It must, however, be noticed how large a proportion of the exports consisted of ivory and rubber. The following table shows this comparison:—

TABLE III.—*Showing Proportion of Rubber and Ivory to Total Exports.*

[Values in £'s sterling.]

	Total Exports.	Made up of		Percentage of Ivory and Rubber to Total Exports.
		Ivory and Rubber.	Other Exports.	
	£	£	£	
1895	485,426	381,239	+ 104,187	78
'96	603,643	492,749	+ 110,894	81
'97	698,281	597,242	+ 101,039	85

It will be seen that not only is the proportion of ivory and rubber to the gross exports very large, but it is also an increasing proportion, having attained in the last year to 85 per cent. More than this, the total value of other products exported shows in the last year an absolute decline.

It is evident that the whole trade at present depends upon ivory and rubber. Now the ivory trade is simply an export of the stores of ivory which had been neglected by the natives up to the time of their coming into contact with Europeans. Elephants had been killed and their tusks left uselessly to cumber the ground.[37] These spoils have been sought for and brought in, but with such effect that the store is rapidly becoming depleted. Practically no ivory is obtained from elephant hunting, and it is generally admitted that the export trade cannot last.

[37] Glave, "C. M.," liv, p. 703.

Mr. Pickersgill indeed thinks that an elephant game law might be established which would result in "a regulated supply,"[38] but as he connects this with the statements that very little of the ivory now exported is fresh, and that comparatively few elephants are now killed, it would seem that his regulated supply would sustain a very small trade. Another authority, already quoted as one of unique experience, gives five years as the term within which the export will practically cease. The same authority anticipates an extinction of the rubber industry, and it must be repeated that he is very friendly to the Congo State, and has faith in its future. This makes his declaration all the more remarkable, when he says that in thirty years the process of extraction will have gone so far as to exhaust the supply. This is a most startling prediction. It is admitted that the regulations laid down for the cutting of rubber vines are practically inoperative, and little commercial value can be attached to the results of planting which the State has here and there undertaken. The process is one of extraction without any security of obtaining fresh supplies. It may be hoped that if this industry passed away others might arise to take its place. A regulated and submissive people might, under due superintendence, cultivate coffee and tobacco and other products, but experience up to the present would show that these projects are rather fanciful than real, and even if the transformation of the native population could be effected, the economic value of the result must be doubtful. It is not enough that coffee and tobacco could be produced. They must be produced at a cost which would enable them to be brought into competition in the markets of the world.

Mr. Consul Pickersgill in his examination of the trade of the Congo has analysed the imports in order to find approximately the share that passed into the hands of the natives and the share consumed by the European residents, with a result that out of a total of 473,441*l.*, he allots only 148,102*l.* to the natives, the remaining 325,339*l.* representing imports for European use. The result is striking, but it is doubtful whether it contains any pregnant lesson. Two or three erroneous deductions might perhaps be drawn from it. It might be said that the small share going to the natives proves the extremely lucrative character of the trade with them. But in truth the support of European residents is as much a part of the cost of that trade as the cottons and other goods given in exchange. Again, it does not matter to the Belgian exporter who consumes the commodities he sends out, if he gets paid for them.

It is more to the point to consider the relative value of the

[38] 1897 "Report," p. 6.

trade as a whole. The total exports and imports of the Congo in 1897 amounted, as we have seen, to 1,635,368*l.* Now the total export and import trade of Belgium in the year 1896 were valued at 230,307,000*l.*, so that the Congo trade represents very little more than 0·7 per cent. of the trade of Belgium. The value of outlet for commerce thus obtained appears to be no more significant than the value of outlet for men. The result is sadly disproportionate to the anticipations of the enterprise. Belgium is relatively a free trade country, although the movement there may in recent years have been rather away from than towards perfection of free trade, but it may be suggested with confidence that if the funds spent on the Congo had been applied to the relaxation of the Belgian tariff, the augmentation of the Belgian trade with European customers would have far exceeded the 0·7 per cent. obtained through the Congo, and the excess would have been multiplied again and again if the action of Belgium should have stimulated other Powers to follow the same example. Any general opening of markets through this policy may be a dream, but it is not less incumbent on us to point out that the field for enlargement of trade between European countries offers far larger scope for conquest than is indicated in the experience of the Congo. The general trade of Belgium did in fact increase in the decade 1886-96 by 24 millions, or about 12 per cent., and the elasticity thus indicated suggests how much more could be accomplished by free trade in Europe than by colonies in Central Africa.

I have said already that if we wish to think accurately about such enterprises as the Congo experiment, philanthropy and commerce must be separated from one another in our thoughts. As a philanthropic adventure the Congo has certainly been a very mixed success. An extremely chequered record of war, enforced labour, and exacted tribute may after long years effect a certain transformation of the social condition of the inhabitants. But it is at least open to doubt whether a greater, more certain, and more durable change would not have been effected, if instead of intervention with an organised force of European origin, missionaries, catholic and protestant, Belgian English and American, had been allowed to pursue their labours in peace. King Leopold would not be the head of a region equal to Western Europe, but a score of Livingstones, if such a number could be obtained, would effect a more enduring triumph. As for the commercial success of the Congo, it is always possible to say that we are on the eve of a new period of prosperity. Mr. Stanley declared long ago that the State could not pay without a railway, and the railway has now been opened. Enough

however has been said to show that it is disputable whether the resources of the country are such as to sustain a permanent trade, even with the help of the railway. What has been done hitherto has been an extraction of products to which a limit can be assigned. The adventure of the Congo is in truth an illustration of a principle which seems to command fairly wide acceptance, that a colony is always a colony, even though it be one which you can never colonise. The immense development of wealth and commerce and of civilised populations following the establishment of some of the colonies of Europe, has encouraged the belief that all adventures to which the same name can be given must be crowned with the same success. Yet the conditions which have secured this success in the past can be easily indicated, and it becomes a simple inquiry whether like conditions are to be found in any land offered for new enterprise. The most famous of the colonies which we ourselves have founded are those of North America and Australasia, where we have occupied lands open to all forms of industrial settlement, whence the sparsely distributed natives inhabiting them before our arrival have gradually diminished and disappeared. There is evidently no parallel between such colonies and such an enterprise as that of the Congo. In the great Spanish and Portuguese colonies of central and southern America, immigrants from the peninsula settled and their descendants abide, and though natives have not disappeared as they have in the north, yet the fact that men of European origin have been able to transfer their stocks to these countries, constitutes an essential difference between their colonisation also and that of central Africa. It is true that in British India Englishmen cannot settle from generation to generation. We send out administrators and directors of commerce and industry to live there through certain years of active life, and then return homewards, where their children have been sent before them. But the success of this great history (which cannot strictly be called the founding of a colony), has depended upon the essential condition that we have found there a vast population trained in the arts of peaceful life, and possessing a civilisation more ancient and in some respects more elaborate than our own. The presence of the representatives of Great Britain secures to the inhabitants of the great peninsula internal peace, and has brought to their industrial and commercial life the latest developments of European organisation. But British authority could not have been crowned with the success it has achieved if its arrival had not been anticipated and even invited by the presence of a civilisation which simply wanted to be kept together. In the Congo, and indeed through the greater part of Central Africa, no such civilisa-

tion exists, and its creation is not a matter of a few years nor of a few generations. It is always hazardous to predict the failure of a new enterprise because it is unlike former adventures. But we are justified in saying that nothing can be deduced from the history of American colonisation or of Indian domination to justify hopes of a lucrative commercial expansion in Central Africa. Missionary and philanthropic labour may be spent there with approval and with some measure of slow success, but the foundation of healthful colonies furnishing outlets for population and commerce is not hopeful. It may be asked then what is to be done to find a vent for swarming people and overflowing production. One answer, which for a long time yet to come will be sufficient, is, that there are available regions still open where settlements can be extended and commerce can penetrate on existing lines. But there is yet another answer to be given, not in any way to be qualified as temporary. What is to be done when all the earth has been appropriated by some one or other of the aggressive powers of the world? After all, the imperial movement can scarcely overstep the limits of the planet, and there must be some other means than that of finding new territories for solving the problem of homing the teeming life of men. But here we enter upon speculations outstripping the limits of this paper. I return to its narrower conception. It seemed to me not unfitting to suggest to the members of the Statistical Society the expediency of establishing a debit and credit account of the extensions of empire, of which we now hear so much. I have taken one example, and made a hasty, and it may be, in some particulars, an inaccurate survey of it. But whether the work has been well or ill done, it may serve as an illustration of work profitable to do, and as such I leave it with you.

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PROCEEDINGS *on the* 13*th* DECEMBER, 1898.

AFTER the preliminary formal business of the meeting,

The PRESIDENT delivered his Annual Address, and at its conclusion,

Sir ROBERT GIFFEN, K.C.B., said he was sure that he expressed the unanimous feeling of the meeting, in proposing a hearty vote of thanks to Mr. Courtney for his very masterly and instructive address. In doing so he took occasion to thank Mr. Courtney particularly, in the name of the Society, for the great assistance he had given them in becoming their President. In the early part of the last session he had given a remarkable address on the coal supply, which lived in the memory of those who listened to it. It had the merit of challenging some very common opinions and of exciting discussion, and he might say that there were few addresses which had been of more advantage to the Society and the public in recent years. Mr. Courtney had now followed up that address by one on experiments in colonisation, with special reference to the views of those who thought that the state of our trade was to be remedied by going further and further in such experiments. They must all thank him for the way in which he had enforced and driven home the point that there were colonies and colonies; that they must not argue from their own experience in America and Australia, where in a suitable climate for immigrants from Europe, colonisation had been carried on so successfully, or from their experience in India, where they had had the advantage of taking over the control of a civilised people, who were only wanting good government to become good customers to us as traders; that therefore if they went to other parts of the world where the conditions were not at all similar, experiments in so-called colonisation would bring forth like results. The Congo State had been put before them as an object lesson, and it was quite easy to see that such a State, where the conditions of climate were unfavourable to European settlers, and where immigration was impossible for surplus population from Europe, was not a region where colonising would take place to any serious extent. Mr. Courtney had further proved that in a district like the Congo the experiment for many years meant the sinking of money (he thought of saying the investment, but that was hardly a correct phrase); the experiment really meant the sinking of money; and the profit, if any, was very long deferred. He was quite sure there were many parts of the earth which were now the subject of a scramble between the nations of Europe, where those who were fortunate enough, as they said, to obtain possession, would have to lament ten, twenty,

or thirty years hence that they had burnt their fingers. He quite agreed with Mr. Courtney that the thing to do was to encourage people not to seek developments of trade in outlying countries of so little value, but to develop trade with older and civilised countries. One chief axiom of Free Trade, to take care of the imports and let the exports take care of themselves, seemed to be very much forgotten at the present time, but they would have to go back to it. At all events, in a country like theirs, where they were entitled annually to so much interest from other countries, they might be well content to devote their attention to seeing that we received the imports we were entitled to, and not think so much of exports. If other countries sent us more than the amount for which they were indebted to our country, it was quite certain that they would take payment in goods or services, because there was no other way in which they could be paid.

Sir Francis Sharp Powell, M.P., in seconding the motion, said he felt a great debt of gratitude to Mr. Courtney for his presence last year and also that evening. On both occasions they were favoured with a highly suggestive address, and one full to the brim with the richest information. Being connected with the coal-mining industry, he felt under the greatest obligation to Mr. Courtney for the address he delivered last year. He considered it as a great misfortune, that so little regard was had for the statements then made, and—perhaps not even in the next generation—there would be bitter regret that more deference was not paid to the opinions of Mr. Courtney. He hoped that gradually public interest would be aroused in this matter, that they would feel the gigantic importance of the coal supply, and would be alive to the obligation to take the greatest care and afford the greatest protection, but in entire accordance with Free Trade, to every ton of that "precious metal." Last year Mr. Courtney gave them cause for discomfort and anxiety, but this year he put the balance right. He had consoled them because the Congo was not theirs, and had given them reason to feel the highest satisfaction that it was to the Belgians, and possibly to the French, as reversionists, that that wonderful possession belonged. He hoped the people of their country would appreciate both the lessons Mr. Courtney had taught them.

The resolution was put to the meeting by Major P. G. Craigie, and carried unanimously.

MISCELLANEA.

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I.—*On the Representation of Statistics by Mathematical Formulæ.* (Part I.) *By* Professor F. Y. Edgeworth, M.A., D.C.L.

Analysis

(*of Professor Edgeworth's Paper*).

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The representation of numerical observations by a mathematical formula is then most perfect when *à priori* it is demonstrable that the formula tends to correspond to the facts, and actually the correspondence proves to be very close. For instance, it is deduced by Fourier from first principles that, if a metal bar extending indefinitely in one direction has its extremity kept at a constant temperature, then ultimately the temperature, V, of any section of the bar, distant x from that extremity, is represented by the formula

$$V = Ae^{-cx}$$

where A and c are constants;[1] and, as Fourier continues, "several physicists have observed the fixed temperature at different points of a metal bar exposed at its extremity to the constant action of a source of heat, and they have ascertained that the distances from the origin represent logarithms, and the temperatures the corresponding numbers."[2]

An *à priori* basis so complete is not to be expected in sciences less exact than that of Heat. We must often be content with presumption rather than demonstration. As a type of what may be attainable in vital and social statistics, take "Gompertz's Law of Mortality." This formula is based on the assumption that the "force of mortality"—the rate of the efflux of lives (per unit of time, per cent. of those surviving)—is not constant, but constantly increasing, the law of that increase being geometrical progression. The assumption is plausible, but it is not rigidly demonstrated *à priori*.

It may be said indeed that the law is proved by the accuracy with which the deductions from the law agree with the facts;[3] and that the main proof of the axioms of physics, the principle of the "Communication of Heat" for instance, which Fourier, in the passage just referred to, has employed, is of a similar character.[4] But that principle is tested by its agreement with the facts under a much greater variety of circumstances than Gompertz's hypothesis as to the force of mortality; the latter cannot equally, I think, be regarded as a *vera causa* established independently of the particular facts which it is called on to explain. The presumption however is properly held to afford some justification for the adoption of Gompertz's law.

There is another circumstance which should influence us in the selection of a formula, especially when *à priori* demonstration affords no certain guidance, when in our uncertainty as to what the real law is we are freer in our choice of expressions. *Ceteris paribus*, that form should be selected which is most specially

[1] *Theory of Heat*, Art. 73. Translation by Freeman.

[2] Ibid., Art. 76.

[3] To the fifth decimal place over a series of observations. *Textbook of Institute of Actuaries*, Part II, p. 84.

[4] *Cp.* Fourier, ibid., Art. 64. "Observations have been made with accurate instruments" on variously shaped solids. "The results of these experiments agree with those which are derived from the preceding proposition"—the principle of the communication of heat.

adapted to the purpose in hand. Thus for the purpose of the actuary a dominant circumstance in favour of Gompertz's law is that it lends itself to the problems of *joint survivorship*. The formula of Gompertz, and this formula alone, enables us to calculate the value of a joint life annuity from a table of the values of annuities on single lives, by finding a single life which may be substituted for the two or more joint lives. The cognate formula of Makeham has a similarly convenient property: the formula, if not true, is at least well invented.[5]

Apart from such a special purpose, a certain general purpose, elegance of description, is attained when a large mass of observations, such as the values of l_x for a series of years, are subsumed in a single simple formula

$$l_x = g^{c^x}$$

Another criterion of excellence is that the formula should be easily worked; a property which depends not only on the simplicity of the expression, but also on its involving functions, the logarithm for instance, of which the values have been tabulated.

There are then some five considerations which should govern our choice of a formula: *à priori* validity, correspondence with the observations, adaptation to a special purpose, descriptive neatness, and arithmetical ease. I propose to employ these criteria, especially the first of them, to test certain formulæ which may be proposed to represent statistics of *frequency*—such as statements of the number of times that each degree of stature, income, barometric pressure, or any other measurable quantity, occurs—in general, and apart from special knowledge of the particular subject matter.

There is one such formula distinguished above others by the prestige of *à priori* demonstration: the normal law of error, or probability curve, viz.:—

$$y = \mathrm{N} \times \frac{1}{\sqrt{\pi c}} e^{-\frac{x^2}{c^2}} \quad [6]$$

(where x represents a particular magnitude and y the frequency of its occurrence); which may be expected to be the law of frequency, whenever a quantity fluctuates under the influence of a great number of contributory causes or elements, each varying independently of the others, and within such narrow limits that the effect of each element upon the total result is never very great.[7] It is a probable hypothesis that such a plexus of causes often exists *in rerum natura*.[8]

There can be no hesitation about taking the probability-curve as the proper representative when the *à priori* consideration in its

[5] *Textbook of Institute of Actuaries*, Part II, chap. vi and chap. xii; and papers of Demorgan there cited.

[6] See "Methods of Statistics," Jubilee volume of *Journal of the Royal Statistical Society*, 1885. I shall, sometimes, where no misunderstanding can arise, put equal to unity, and so omit, N, which stands for the number of observations, the area contained between the curve and the axis of x.

[7] Compare Note 17, p. 674.

[8] See Appendix, Note 1.

favour is confirmed by observing that it does in fact correspond accurately with the given statistics. Many instances of its close fit are given in the books on Probabilities. In some of these cases I have compared the fit of the probability-curve with that of other curves which might fairly be regarded as its rivals, being equally simple, with the same number of constants at disposal, and have found a high probability in favour of the former.[9]

I will now adduce another comparison of this sort, with a curve which might seem to be a formidable rival, since it not only "tails off" indefinitely towards the extremities—resembling in this respect real groups of observations better than the common parabola, for instance, does—but it also enjoys a property which may be looked for in a general law of error, namely, that it is *reproductive:* if an observation ranging under one curve of this family[10] is superposed on an observation ranging under another curve of the family, the law of the compound will still be of the same family.[11] I mean the curve

$$y = \mathrm{N}\frac{1}{\pi}\frac{c}{c^2 + x^2};$$

where N is the total number of observations. The constant c may be determined for any given set of observations by putting c equal to the distance between the median and one of the quartiles, or to half the distance between the quartiles.

Let us apply this method to a well-known set of statistics, the heights of 25,876 American recruits tabulated by Mr. Elliott.[12] It appears from these statistics that one quartile is between 68 and 69, another between 64 and 65. It is a nice question—which will be discussed later[13]—at what particular point between its two limits each quartile should be placed; the common method of interpolation by proportionate parts certainly gives a point too distant from the centre. However, the method is accurate enough for the present purpose; particularly as the resulting value for the quartile is almost identical with that which is virtually employed by Mr. Elliott in his reduction of the observations. By proportional parts then the apparent first quartile is at 64·882, the apparent second quartile at 68·454. The interquartile is thus 3·572, the half of which, 1·786, is equateable to the constant of the proposed curve.

Comparing the curve thus determined with the given set of observations, I find that the area intercepted between the curve and horizontal axis differs from the true area, namely, that which is intercepted by the broken line or polygon representing the

[9] See my article "On the Empirical Proof of the Law of Error," in the *Philosophical Magazine* for 1887, vol. xxiv, p. 330.

[10] It will be recollected that curves represented by the same *function* (with different values of *constants*) are said to be of the same family.

[11] *Cf. Cambridge Philosophical Transactions,* "On Observations and Statistics" (by the present writer), p. 142.

[12] "*International Statistical Congress for* 1863," p. 7. The statistics are cited by Professor Karl Pearson in his second contribution, *Transactions of the Royal Society,* 1895, p. 385.

[13] Below, p. 681.

observations and the same axis, to the extent of more than 34, perhaps as much as 40 per cent. of the latter.[14] Contrast this with the fit of the probability-curve which, as constructed by Mr. Elliott for the same observations,[15] has an error, similarly reckoned, of 5·6 per cent.

I have employed a second method of testing the comparative suitability of the formula in question. Consider the formula as belonging to the more general type

$$y = N \div (A + Bx^2),$$

where N, as before, is the total number of observations, and A and B are constants.[16] These constants may be thus determined. In the diagram—or *histogram* in Professor Pearson's phrase—consider any strip or column standing on a base an inch wide. Let the distance of the centre of this base from the centre of the group be x'. Then the area of the strip, the number of observations between the limits $x + \frac{1}{2}$ and $x' - \frac{1}{2}$, ought to be nearly

$$N \div (A + Bx'^2).$$

We have thus one equation for the unknown quantities A and B; and we can obtain as many more similar equations as there are degrees or intervals in the given group of observations; that is in all *twenty-seven*. Of course it is in general impossible for any two quantities to exactly satisfy twenty-seven equations. But—just as an astronomer proceeds when he obtains by observation many equations involving two unknown quantities—we can determine what are the *most probable* values of A and B. The result of this inquiry is that the most probable value of A is *negative;* corresponding to a shape quite different from what was expected, and not suited to represent the frequency of observations. The answer appears to intimate that the proposed type is inadmissible. No such paradoxical result is obtained when we similarly determine the constants for the normal form.

I have thought it worth while to realise in a fresh instance how decidedly the *à priori* presumption in favour of the normal curve is borne out by experience.

In cases where the normal law is evidenced both by *à priori* reasoning and observed fitness, there can be no hesitation about preferring that law. The rub is where the law is no longer accurately fulfilled, as in the case of unsymmetrical groups of observations. The main thesis of this paper is that preference should be given to formulæ which have a certain affinity to the normal law, which are regarded as due to some modifications of the conditions under which the normal law arises. Those conditions are mainly two: the co-operation of an indefinite number of independent agencies, and the smallness of the effect of each agency on the total result.[17] The existence of these conditions *in*

[14] See Appendix, Note 2. [15] *Loc. cit.*

[16] The type hitherto employed, involving only one constant, is obtained from the more general form by the condition that the sum of the observations (the integral of y between extreme limits) = N.

[17] More exactly, the possibility of developing the total result in ascending powers of the variable parts.

rerum natura is probable prior to the observation that the normal law is of frequent occurrence. The prevalence of that law attests the prevalence of the conditions from which it is deducible. It is a probable hypothesis that some modification of those conditions results in a somewhat abnormal law of frequency.

In thus desiderating an *à priori* basis for a general law of frequency, I separate myself from the distinguished statisticians who regard closeness of fit as the only test of a representative formula. Professor Pareto, indeed, the inventor of a beautiful and useful representation of the frequency of incomes of different sizes, seems averse even to entertain the idea of a generalised probability-curve.[18]

Of course *à priori* presumption is only one among several criteria of a good formula;[19] attention must be paid to the others, including accuracy of fit. Three classes of formulæ which may be recommended as satisfying the criteria will be considered in this paper :—

I.

Among curves which fit unsymmetrical groups of observations a distinction is to be drawn between those which are *à priori* known or presumed to be appropriate to extensive parts of concrete nature, and those which have not this recommendation. Under the former head Professor Pearson's method of separating a given set of observations into two normal groups deserves the first place, both on account of its elegance, and the comparatively wide extent of cases to which it is applicable. It is only in order to make a more equal division between the portions of my essay which are to be published separately in this *Journal*, that I begin with the method which I had originally placed second.

This method may be introduced by an example. It is known that measurements of male stature for a nation group themselves, according to the normal law of error, about an average which is for England, say for brevity, 67. Thus the height of any particular man may be described as $67 + e$; where e is a deviation assuming different values, positive or negative, for different individuals. These values range, say from + 11 to − 11; five-sixths of them being comprised within the limits ± 3·7 (the *modulus* of the group), and more than 99·5 per cent. within the limits ± 7·4.

Now consider the grouping of some attribute which depends upon, though it is not proportioned to—is a function, but not the

[18] My incidental allusion to the eminent statistician's income-curve in the *Journal of the Royal Statistical Society*, 1896, p. 533, could hardly have provoked his implacable retorts in the *Giornale degli Economiste* for November, 1896, in the same journal for March, 1897, and once more in the *Journal de la Société de Statistique*, Paris, November, 1897, if he had realised that my subject was the "General laws which govern the grouping of members of species" (*Journal of the Royal Statistical Society*, 1895, p. 506), and my thesis, "that a close fit of a curve to given statistics is not, *per se* and apart from *à priori* reasons, a proof that the curve in question is *the* form proper to the matter in hand." (*Journal of the Royal Statistical Society*, 1896, p. 533, referring to the article in 1895.)

[19] Above, pp. 671 and 672.

simplest function of—the height. For instance the contour of the figure—the shadow which a man facing a very distant search-light would cast on a wall behind him—is probably on an average proportioned to the *square* of the height. Suppose it were so exactly in each individual case; then to any height $67 + e$ there would correspond a contour $k(67 + e)^2$, where k is a factor which remains constant while the e's change. The measure of a contour then is $k(67^2 + 134e + e^2)$ or $k67^2 + k134e\left(1 + \frac{e}{134}\right)$.

It appears from this that the contours corresponding to the different values of e will range themselves about the mean $k67^2$ according to a law which is very nearly symmetrical, very nearly a normal grouping; the proportion by which any deviation on the part of a particular contour from the average differs from a value which would comply with the normal law, namely, $k134e$, is a very small proportion, namely $\frac{e}{134}$, a fraction which in only one out of 200 values of e will be as great as 0·055, and which as often as not will be less than 0·013. A similar approximation is manifested if we consider some attribute which is proportioned to the *cube* of the stature, say *weight*. In this case the mean value of the group would be 67^3. The deviation of any particular weight would be approximately of the form $j \times 3 \times 67^2 e$, where j is a new constant, and e as before is the deviation of an individual height. The actual deviation would differ from the above by a *proportion* equal to $\frac{e}{67} + \frac{e^2}{3 \times 67^2}$; which is likely to be small.

And so on of other *functions* besides the cube and the square, the fourth power, or a sum of powers, or the logarithm, and so forth—very generally, if a variable thing obey the normal law, a function of that thing will obey the normal law.

But this property holds only commonly, not universally. It would not hold, for instance, if we took the 100th power of the statures. The first approximation to the deviation would be now

$$l \times 100 \times 67^{99} \times e$$

(the first term of $(67 + e)^{100}$ expanded according to the binomial theorem, and multiplied by a constant); and the inaccuracy of this approximation would be measured on the same principle as before—by the *proportion* $\frac{99}{2} \times \frac{e}{67}$ + terms affected with $\left(\frac{e}{67}\right)^2$, $\left(\frac{e}{67}\right)^3$, and so on. The first of these terms alone would be equal to *unity*—that is the first approximation would be out by 100 per cent.!—as often as $e = \frac{134}{99}$; that is more often than not, since the probable error of the group of statures is nearly 1·8.

Again, the property would not hold if for any purpose we considered the weights of that part of each human body which is above a horizontal plane supposed to pass through the body at the height of the least possible stature, say 50 inches. The cube

of the statures reckoned from *this* point would sensibly violate the normal law. The deviation (from the mean $j17^2$) would now be of the form $j \times 3 \times 17e\left(1 + \frac{e}{17} + \frac{e^2}{3 \times 17^2}\right)$. The proportion $\frac{e}{17}$ would once in two hundred times amount nearly to a *half*, once in six times to about a *fifth*. There would be a sensible asymmetry, and it would be necessary for a good approximation to take into account that the first approximation to the deviation, viz., $j51e$, is for positive values of e (value of stature above 67) too small, for negative values of e too great, by the percentage $100 \times \frac{e}{17}$.

In short, if one thing depends upon another which obeys the normal law, the first approximation to the law of frequency for the dependent variable is that to every deviation $\pm e$ of the independent variable there corresponds a deviation $\pm \alpha e$ (where α is a constant) for the dependent variable; the second approximation is that to every deviation $+ e$ or $- e$ of the independent variable there corresponds a deviation $+ (\alpha e + \beta^2)$ or $- (\alpha e - \beta e^2)$ for the dependent variable. In the multifarious relations of things it must sometimes happen that the constant β is sensible, though not large. The formula above given is proper to this partial modification, this commencing degeneracy, of the normal law.

I propose to treat asymmetrical groups of observations as if they were generated in the manner which has been described, as if each member of the given group was a certain function of a member of a normal group; and to represent the group by the formula which on this hypothesis constitutes the second approximation to the true shape. Not that the hypothesis universally holds good, or that the formula is always the most appropriate,[20] but that it is sometimes *the* formula, and generally *a* very good formula.

The problem of finding the generating normal curve, as it may be called, may thus be announced. The given group of observations being represented by a curve (or histogram) of which the longer arm stretches in the positive or upward direction; there are three *quæsita:* c, the modulus of the generating normal curve, a, the average length of the members of that group, and O, a point on the axis of x outside the lower extremity of the given group from which as zero a is to be measured in a positive direction; in such wise that to every member of the generating group measuring x there should correspond a member of the generated group $X = x^2$. [21]

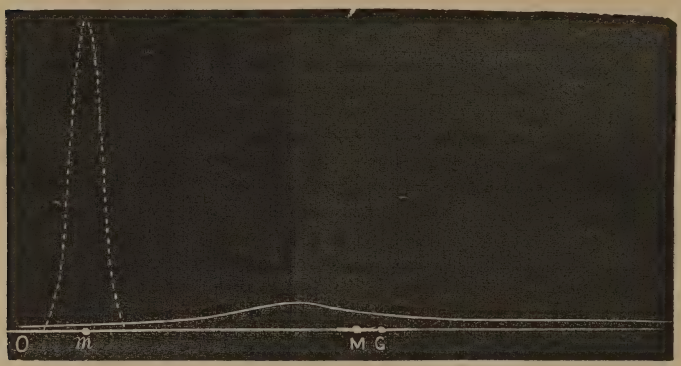
The accompanying figure will make the relation of the two curves clear. The dotted curve is the generating normal of which the modulus is say 2, and the centre is distant from the origin O by three times the modulus $= 6$. Corresponding to the centre of the generating curve m is the median M of the generated curve, distant 36 from O. Corresponding to the extremities (as for practical

[20] See Appendix, Note 4.

[21] The general idea being that each member of the generated group is a definite *function* of some member of the generating group, we in effect treat this function as if it were the square, when we confine ourselves to a second approximation.

purposes they may be regarded) of the generating curve at distances 2 and 10 respectively from O, we have for the extremities of the generated curve the points 4 and 100 respectively. Thus, the length of the upper arm measured from the median is double the length of the lower arm. The centre of gravity, G, will be above the median; the position of the greatest ordinate below it.

FIG. 1.



The position of the point O is to be determined by its distance from some point given by the observations; in particular the median, or the centre of gravity of the group. The data proper to the first form of the problem are the *percentiles;* the data proper to the second form are the *mean powers* of deviation from the centre of gravity. It will be convenient to begin with the second.

The data then are:—(1) the position of the centre of gravity; (2) the mean second power of deviations from that centre, μ_2 in Professor Pearson's notation; (3) the corresponding mean third power, μ_3. And the *quæsita* are: (1) g, the distance (in a negative direction) of the required origin O from the centre of gravity; (2) a, the distance from O of the centre of the generating probability-curve; (3) c, the *modulus* of that curve, or c^2, the *fluctuation*, which we will call f.

The solution is given by the following equations:—[22]

$$(1)\ f^3 - 6\mu_2 f + 2\mu_3 = 0.$$
$$(2)\ a^2 = (\mu_2 - \tfrac{1}{2}f^2) \div 2f.$$
$$(3)\ g = a^2 + \tfrac{1}{2}f.$$

Of course only positive values of $f\ (=c^2)$ and a^2 are admissible. It may be expected also that c should be small with respect to a, say less than $\frac{1}{2}a$; otherwise the origin O will fall within the tail of the curve, and that tail by the operation of squaring will be curled round in a perplexing fashion.[23]

Take for example the barometric heights at Babbacombe discussed by Professor Pearson.[24] According to his computation $\mu_2 = 10{\cdot}9012$, $\mu_3 = 13{\cdot}0321$. Accordingly the cubic for f is $f^3 - 65{\cdot}4072f + 26{\cdot}0642 = 0$. This equation has two positive

[22] See Appendix, Note 5. [23] Ibid., Appendix, Note 5.

[24] *Transactions of the Royal Society,* 1897.

roots, one between 7 and 8, one between 0 and 1. The former is inappropriate, as it gives a negative value of a^2. The latter is approximately 0·399. Whence $c = 0{\cdot}632$; $a^2 = 13{\cdot}5438$; $a = 3{\cdot}68$ nearly; $g = a^2 + \frac{1}{2}c^2 = 13{\cdot}7435$.

To calculate the frequency between any two points on the abscissa of the given group, we have only to determine the corresponding points on the abscissa of the generating probability-curve, and thence ascertain by the usual tables the area bounded by ordinates through those points. For the purpose of determining the corresponding points it is convenient to know the point of the generated curve which corresponds to the centre of the probability-curve. It is the point which is distant a^2 from the new origin; while the centre of gravity is distant $a^2 + \frac{1}{2}c^2$ from that origin. The required point is therefore distant $\frac{1}{2}c^2$ in the negative direction from the given centre of gravity. Now in the case before us the centre of gravity, as given by Professor Pearson, is 29·9787 inches; or, as I take the liberty of writing, the unit employed being a *tenth* of an inch, 299·787. As the *negative* direction in Professor Pearson's construction is *upwards* away from the zero of pressure—there is to be *added* to 299·787 the value of $\frac{1}{2}c^2$, viz., 0·199. The central point therefore is at 299·986; a point closely corresponding, as it ought, to the observed median.[25] Accordingly for the proportion of observations contained between this point and x' any point *above* it—that is any *smaller* number of inches—we have the formula $\frac{1}{2}\theta(\tau)$; where θ is the integral of the error-function tabulated in the books on Probabilities, $\tau = \xi \div c$, $\sqrt{\xi^2 + 2a\xi} = (x' - M)$, M being the median; or $\xi = \sqrt{a^2 + x' - M} - a$. For example, if $x' = 299{\cdot}5$ (*above* the median), $x' - M = 299{\cdot}986 - 299{\cdot}5$ (attending to the signs) $= 0{\cdot}486$. Whence $\xi = \sqrt{13{\cdot}5438 + 0{\cdot}486} - 3{\cdot}68 = 0{\cdot}06564$, $\tau = 0{\cdot}06564 \div 0{\cdot}632 = 0{\cdot}10386$ (assigning to a^2, a, and c the values above found). Whence it is found with the aid of the usual tables that the proportion of the observations intercepted between 299·5 and the computed median 299·986 is $\frac{1}{2}$ 0·11677. The proportion intercepted between 301·5 and the median may similarly be computed. Subtracting the former figure from the latter we have the proportion, and multiplying by 365 (the sum total of the observations), the number of observations in the interval between 300·5 and 301·5; that is, as the given statistics are to be read, at the point 301. The figures for the other points on the upper branch (above the median) are similarly determined.

This calculation is exhibited in Table I (Part I) annexed, where the first column gives the values of $a^2 + x' - M$ for the upper limit of each interval of an inch. *E.g.*, the last figure in the column means that for a corresponding point, 299·5, $a^2 + x' = 14{\cdot}0298$. Col. 3 gives the values of ξ, as above defined; Col. 4 of τ; Col. 5 of the integral which is tabulated in books on Probabilities. Col. 6 gives *twice* the *proportion* of the sum total of observations which is contained in each interval, 299·5 — 298·5, 298·5 — 297·5, . . . The first entry in this column is

[25] See below, p. 682.

obtained by subtracting the entry in Col. 4 from unity. The *number* of observations in each interval is found by halving each of these proportions and multiplying by 365, the total number of observations; or, what comes to the same, multiplying each figure in Col. 6 by $\frac{1}{2}$ 365. This forms the contents of Col. 7—the *calculated* number of days, which is to be compared with the observed number of days given in Col. 8. Col. 9 gives the difference between each calculated and observed number, or the "error."

The calculation in Table I (Part II) for the lower branch of the curve is exactly analogous, except that we use the formula $a - \sqrt{a^2 - x'}$ for ξ. A slightly different, perhaps better, method of treating the last figure has been adopted.

There still remains to be calculated the contents of the central compartment between 299·5 and 300·5. From Part I (Col. 5, last entry) we learn that $\frac{1}{2} \times 0{\cdot}116774$ of the total number of observations occur between 299·5 and the median; from Part II (Col. 5, first entry), that $\frac{1}{2} \times 0{\cdot}12502$ of the total number occur between the median and 300·5. Therefore the proportion between those limits is 0·12089 (7), which, multiplied by 365, gives 44·13 for the number of days having height of pressure between 299·5 and 300·5. The observed number is 45·92, so that there is an error of 1·75.

TABLE I.—*Illustrating the Application of the Method of Translation to Statistics of Barometric Heights (below 29·9986 inches) at Babbacombe.*—PART I.

1 3·68² + Deviation from Median.	2 Square Root of Col. 1.	3 Col. 2 − 3·68.	4 Col. 3 ÷ 0·632.	5 θ (Col. 4).	6 Differences of Col. 5.	7 Col. 6 × 182·5.	8 Observations.	9 Errors. (Difference between Cols. 7 and 8.)	Height in Tenths of an Inch.
					0·000672	0·120	0·19	0·070	
27·0298	5·19901	1·51901	2·40500	0·999328					286·5
					0·000803	0·146	0·42	0·274	
26·0298	5·10096	1·42096	2·24830	0·998525					287·5
					0·001599	0·292	0·38	0·088	
25·0298	5·00298	1·32298	2·09330	0·996926					288·5
					0·003174	0·579	0·46	0·119	
24·0298	4·90202	1·22202	1·93360	0·993752					289·5
					0·006036	1·101	0·69	0·411	
23·0298	4·79894	1·11893	1·77050	0·987716					290·5
					0·011037	2·014	1·88	0·134	
22·0298	4·69359	1·01359	1·60380	0·976679					291·5
					0·019342	3·530	2·81	0·720	
21·0298	4·58582	0·90582	1·43326	0·957337					292·5
					0·032416	5·916	6·04	0·124	
20·0298	4·47546	0·79546	1·25864	0·924921					293·5
					0·051726	9·440	9·31	0·130	
19·0298	4·36232	0·68232	1·07962	0·873195					294·5
					0·078403	14·308	15·15	0·842	
18·0298	4·24615	0·56615	0·89581	0·794792					295·5
					0·112286	20·492	18·62	1·872	
17·0298	4·12672	0·44672	0·70684	0·682506					296·5
					0·151333	27·618	26·85	0·768	
16·0298	4·00372	0·32372	0·51222	0·531173					297·5
					0·190790	34·819	36·12	1·301	
15·0298	3·87683	0·19683	0·31144	0·340383					298·5
					0·223609	40·809	41·27	0·461	
14·0298	3·74564	0·06564	0·10386	0·116774				7·310	299·5

PART II.

1 3·682 − Deviation from Median.	2 Square Root of Col. 1.	3 Col. 2 − 3·68.	4 Col. 3 ÷ 0·632.	5 θ (Col. 4).	6 Differences of Col. 5.	7 Col. 6 × 182·5.	8 Observations.	9 Errors.	Height in Tenths of an Inch.
							45·92		
13·0298	3·6097	0·0703	0·1112	0·12502					300·5
					0·23985	43·773	46·96	3·19	
12·0298	3·4684	0·2116	0·3349	0·36487					301·5
					0·21374	39·007	38·88	0·13	
11·0298	3·3211	0·3589	0·5679	0·57861					302·5
					0·17045	31·107	30·19	0·92	
10·0298	3·1670	0·5130	0·8117	0·74906					303·5
					0·12032	21·958	18·23	3·73	
9·0298	3·0048	0·6752	1·0684	0·86938					304·5
					0·07241	13·215	13·65	0·43	
8·0298	2·8337	0·8463	1·3390	0·94179					305·5
					0·03687	6·729	7·31	0·58	
7·0298	2·6514	1·0286	1·6275	0·97866					306·5
					0·01520	2·774	3·12	0·35	
6·0298	2·4556	1·2244	1·9373	0·99386					307·5
					0·00484	0·883	0·38	0·50	
5·0298	2·2427	1·4373	2·2742	0·99870					308·5
					0·00112	0·204	0·31	0·11	
4·0298	2·0074	1·6726	2·6465	0·99982					309·5
					0·00017	0·031	0·08	0·05	
3·0298	1·7406	1·9394	3·0686	0·99999					310·5
								9·99	

The errors are now to be summed up to form in relation to the sum total a measure of the closeness of the fit. The account stands thus:—

Sums of Errors.

Part I	9·99
„ II	7·31
Central compartment	1·75
Error of area	19·05 ÷ 365 = 0·052

The error thus measured comes to 5 per cent.—no bad fit!

To effect a calculation of this sort it is not really necessary to take the trouble of computing the *moments* or mean powers. The much more easily ascertained *percentiles* may suffice. Let Q_1 and Q_2 be the lower and upper quartiles, and M the median of the observed group. Then, a and c being understood as above,

(1.) $(a - 0{\cdot}4769 \ldots c)^2 = Q_1$.
(2.) $a^2 = M$.
(3.) $(a + 0{\cdot}4769 \ldots c)^2 = Q_2$.

Whence $4 \times 0{\cdot}4769\, ac = Q_2 - Q_1$

$2 \times (0{\cdot}4769)^2\, c^2 = Q_1 + Q_2 - 2M$.

Here, however, arises a difficulty which has been already glanced at,[26] that of determining the median and quartiles with

[26] Above, p. 673.

sufficient precision for so fine a calculation. Mere observation usually gives only the whereabouts of these percentiles, not the exact decimal place. The ordinary method of interpolating by proportional parts, based on the assumption that the whole space between two adjacent points is evenly covered with observations, may prove deceptive when it is certain, as in the case of the quartiles, that the space is *not* evenly covered, the group being huddled up from the extremities towards the centre. Accordingly it seems to me safer, for the purpose of determining percentiles with accuracy, to take account of not only, say, n_{-1} and n_{+1} the number of observations given up to each of the points between which the percentile is situated, but also of n_{-2} and n_{+2}, the numbers corresponding to the points outside the aforesaid two points.

Subjoined are the data required for the calculation for the first quartile and the median. The number of observations reckoned up to the neighbourhood of each of those percentiles from the lower extremity of the given frequency-curve, which it will be remembered represents the *higher* barometric pressures;[27] for the upper quartile the number of observations reckoned from the upper extremity.

Pressure, in Tenths of an Inch.	Number of Observations, counted from the Lower Extremity.*	Pressure, in Tenths of an Inch.	Number of Observations, counted from the Upper Extremity.*
303·5	43·08	296·5	55·95
302·5	73·27	297·5	82·80
301·5	112·15	298·5	118·92
300·5	159·11	299·5	160·19
299·5	205·03		
298·5	246·30		

* The *lower* arm of the curve corresponding to the *higher* pressure, and *vice versâ*.

From these data values for the median and each of the quartiles may be computed from the *four* data adjacent to each of those percentiles, according to either of two received methods of interpolation. I exhibit the methods in the Appendix;[28] I give the results only here.

	I.	II.
Q_1	302·011	302·006
M	299·998	299·995
Q_2	297·754	297·761

Whence by the equations given on p. 681, result the following values for ac and c^2

[27] Following Professor Pearson, and because it is convenient to have the mean cube of deviations *positive* (above, p. 677).

[28] See Appendix, Note 7.

	I.	II.
ac	2·23	2·22
c^2	0·42	0·41

There is another method of dealing with percentiles which is free from the suspicion of tampering with the data. This is to utilise—instead of the median and quartile, which may require adjustment—some percentiles of which the exact situation is given.

For example, in the case before us, barometric heights for Babbacombe, counting from the *lower* extremity of the given groups (the *higher* pressures[29]), we have up to the point on the abscissa 302·5 exactly 73·27 observations;[30] that is 0·2007 of the total 365; up to the point 300·5 we have 159·11, that is 0·4359 of the total. From these proportions by the aid of the usual tables we can obtain the proportions of modulus by which the ordinates of the generating curve which correspond to the ordinates of the given group at the points 302·5 and 300·5 respectively are distant from the centre of that curve. Thus the fraction of τ which is such that

$$\tfrac{1}{2}(1-2\int_0^{\tau}\frac{1}{\sqrt{\pi}}e^{-x^2}dx) = 0{\cdot}2007$$

is found to be 0·593.[31] The corresponding decimal for the proportion 0·4359 is 0·114. Therefore the difference between the two points selected, 302·5 and 300·5, viz., 2, is equateable to $(a - 0{\cdot}114c)^2 - (a - 0{\cdot}593c)^2$, where a and c have the meanings assigned to them in preceding paragraphs. Whence (1) $0{\cdot}958\,ac - 0{\cdot}3386c^2 = 2$. This difference is counted positively, since, as already observed, the point 300·5 is regarded as *higher* than 302·5.

By parity of reason, dealing with the points 297·5 and 299·5, the proportion of observations counted from the upper extremity being respectively 0·2269 and 0·439, I find $2 = (a + 0{\cdot}530c)^2 - (a + 0{\cdot}109c)^2$. Whence (2) $0{\cdot}958ac - 0{\cdot}3386c^2 = 2$.

Solving the simple equations (1) and (2) for ac and c^2, I find $ac = 2{\cdot}22$ and $c^2 = {\cdot}42\dot{1}7$.

Of course the data selected might have been otherwise combined. Thus, taking the point 299·5 with the point 302·5, we have $3 = 2ac\,(0{\cdot}109 + 0{\cdot}593) - c^2\,(0{\cdot}109^2 + 0{\cdot}593^2)$. And taking the point 297·5 with the point 300·5, we have $3 = 2ac\,(0{\cdot}530 + 0{\cdot}114) - c^2(0{\cdot}530^2 + 0{\cdot}114^2)$. Forming a linear system of equations for ac and c^2, I find $ac = 2{\cdot}21$ and $c^2 = {\cdot}42\dot{1}4$.

Also other data might have been substituted for those which we have operated with, or may be employed to obtain a confirma-

[29] See the explanation on p. 682.

[30] The decimal places arise from the observations being given in the form of so many days presenting each height, *per year*.

[31] With the aid of the *first differences* given in Table III of Demorgan's *Calculus of Probabilities*.

tion and correction of the result. Even without such correction, and *à fortiori* with it, this method of dealing with the raw material is, I think, equally accurate as the method of adjusting the median and quartile; and it is less troublesome.

I subjoin a table giving in round numbers the values of the coefficients as deduced by the *six* different methods which have been employed. The close agreement of the results is calculated to give one great confidence in thus handling the statistics.

TABLE II.

	Mean Powers.	Percentiles.			
		Adjusted Median and Quartiles.		Data not requiring Adjustment.	
		I.	II.	1.	2.
ac	2·3	2·2	2·2	2·2	2·2
c^2	0·4	0·4	0·4	0·4	0·4

It may be added that if we had contented ourselves with the adjustment of the median and quartiles by the ordinary method of proportional parts, instead of by the more elaborate method here proposed, we should still have obtained almost the same results, namely, $ac = 2{\cdot}25$, $c^2 = 0{\cdot}4$.

The method of *translation* which has been described is not only accurate and easy, it is also adapted to a special problem—the treatment of correlation in skew material. Let there be drawn, as usual, a set of parallel verticals at equal distances, and a corresponding set of horizontals, and in each of the rectangles thus formed let there be written the number of observations occurring within that area. If a normal probability-surface is not represented by these statistics, then we can construct one by method of translation, substituting for each of the equidistant vertical lines a line which has the same proportion of the observations to the right or left of it as the original line, and similarly *translating* the horizontals. The contents of each area will not be disturbed by the translation; the boundaries only will be shifted.[32] The correlation for this normal system is to be found by the usual method. The correlation between the original co-ordinates may be deduced from the correlation between the substituted co-ordinates.

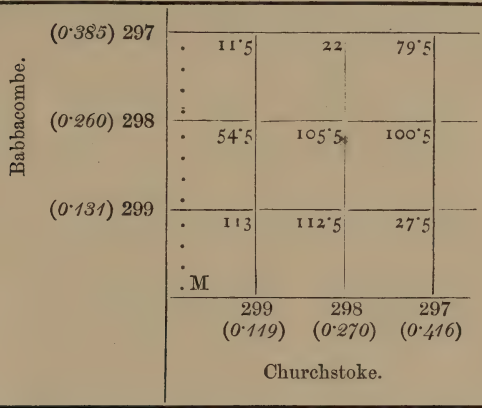
An example will render the method clearer. The annexed table presents some of the material given by Professor Pearson[33]

[32] The contents of each new rectangle should correspond to the parallelopiped intercepted between the plane of xy, the planes perpendicular to it passing through the sides of the rectangle and a certain normal probability-surface.

[33] *Transactions of the Royal Society*, 1897, p. 452. I have not thought it necessary to reproduce the whole of this table with the calculations which appertain to it here. I have deposited the work with the Assistant Secretary of the Royal Statistical Society, who would I dare say allow it to be inspected by any one who might care to verify my inferences.

for the determination of the correlation between the barometric heights at Babbacombe and those at Churchstoke. We may with sufficient accuracy regard the observations as massed[34] at points distant a tenth of an inch from each other; thus, 113 at the point of which both the co-ordinates are 299, 112·5 at the point of which one co-ordinate is 299 and the other 298.

TABLE III (Part of).—*Showing the Correlation between Barometric Heights at Churchstoke and Babbacombe by means of a Hypothetical Probability-Surface.*



Now by the hypothesis which we have discussed, to every barometric height at Babbacombe less than 299·986 (*i.e.*, *above* the median) there corresponds a member of the generating group $(a + e)$ such that $(a + e)^2 = a^2 +$ the distance of the assigned height from 299·986; where $a^2 = 13{\cdot}5438$, $a = 3{\cdot}68$ nearly. Thus to find the deviation e corresponding to the height of 299 tenths of an inch, we have the equation

$$e^2 + 2 \times 3{\cdot}68e = (299{\cdot}986 - 299) = 0{\cdot}986.$$

Whence $e = \sqrt{13{\cdot}5438 + 0{\cdot}986} - 3{\cdot}68 = 0{\cdot}13$ nearly. The value of the deviations corresponding to the Babbacombe heights, 298, 297, &c., also 301, 302, &c., may be similarly computed. But as we have already obtained in Table I on a former page,[35] the values of e corresponding to the barometric heights 299·5, 298·5, 297·5, &c., and also to 300·5, 301·5, &c., it is easier, and equally accurate, to put for the e corresponding to 298 the figure which is intermediate between the e corresponding to 298·5 and that corresponding to 297·5; that is, as appears from the first part of the table referred to, $\frac{1}{2}$ (0·19683 + 0·32372) = 0·2603. And so on for 297, 296 . . . 301, 302. In the annexed diagram along the vertical axis representing Babbacombe heights, opposite each height the corresponding deviation from the centre of the generating curve is printed in italicised type, within brackets.

I have similarly, but less elaborately, treated the given statistics for Churchstoke. From the page of Professor Pearson's *Contri-*

[34] As in Professor Pearson's Paper.

[35] Above, p. 680.

butions now before us, totting up each horizontal row, I find the number of observations at Churchstoke between 31·05 and 30·95, the number between 30·95 and 30·85, and so on. Whence I find by the method of proportional parts—which as compared with the more elaborate method of interpolation was found in the case of the Babbacombe statistics sufficiently accurate[36]—for the median 229·75 (tenths) and for the quartiles 301·96 and 297·23. Employing the formulæ given on a former page[37] we have a' (corresponding to the a of Babbacombe) $= 3{\cdot}1$ and $c' = 0{\cdot}81$ nearly. Accordingly for e', the deviation from the centre of the generating group which corresponds to the height 299 at Churchstoke, we have the equation $e'^2 + 6{\cdot}2e' = 0{\cdot}75$, whence $e' = 0{\cdot}1187$. The value of e' which corresponds to the height 298 at Churchstoke is similarly found to be 0·2704. And so on. These values are printed within brackets in italicised type opposite the heights in tenths of an inch along the horizontal axis in the diagram, which forms Table III.

Thus corresponding to the given set of points with co-ordinates forming a set of equal squares, we have a new set of points with co-ordinates forming unequal rectangles. From the construction it may be presumed that the observations thus transformed approximately represent a normal probability surface.[38] The co-efficient of correlation, r, may be determined by the general rule, given by Mr. Yule in his article on *Correlation* in the *Journal of the Royal Statistical Society* for 1897; only the elegant method by which he avoids dealing with fractions is not here available. It will be necessary to form the sum of products which he designates $\Sigma\xi\eta$ directly. But for the present purpose of illustration I have thought it sufficient to employ a more convenient, though somewhat less accurate, datum for the co-efficient of correlation, namely $\Sigma\eta \div \Sigma\xi$, where for $\Sigma\xi$ may be substituted $Nc \div 2\sqrt{\pi}$, where N is the total number of observations and c is the modulus of ξ. The summation is to extend over the whole area on one side, or the other, of the axis of η. Thus to form $S\eta$ for the right side of the axis of η, or ξ positive, the number of observations entered against the height of 298 (tenths of an inch) at Babbacombe and 299 at Churchstoke, viz., 54·5, is to be multiplied by 0·26. The number entered against the height of 298 at Babbacombe, and 298 or 297 at Churchstoke is to be multiplied by the same 0·26. The

[36] Above p. 684.

[37] If the purpose were other than mere illustration, it might be better to employ a more elaborate method of interpolation.

[38] From the correspondence between fact and hypothesis presented in Table I, it may be assumed that our hypothesis holds good for *one* variable; either ξ or η. That is if one of them, say ξ, be for a moment treated as constant, and ζ the height of the hypothetical surface, whose co-ordinates are ξ and η be integrated with respect to η between extreme limits, the resulting curve in ξ, considered again as a variable, will be a normal probability-curve. And similarly if by integrating the ξ "arrays" (in Mr. Yule's phraseology, *Journal of the Royal Statistical Society*, 1897, p. 813), we obtain a curve in η. The simplest—if not the only—function in ξ and η which fulfils this double condition is that which represents the normal probability-surface. (*Cf. Philosophical Magazine*, 1892, vol. xxxiv, p. 532.)

number or 297 at Babbacombe and any height (*above* the median, that is *less than* 299·75) at Churchstoke is to be multiplied by 0·385.

Summing up these items[39] I find, for positive values of ξ, $S\eta = 496{\cdot}4$ nearly; which being divided by $Nc' \div 2\sqrt{\pi}$, where N is the total number of observations, namely, 2921 $\left(\frac{N}{2}\right.$ the number of observations above the Churchstoke median), gives the coefficient which may be called the apparent (or the gross) correlation, the b_2 of Mr. Yule.[40] The true correlation r is, in his symbols, given by the equation $r = \frac{\sigma_1}{\sigma_2}\ b_2$, where $\frac{\sigma_1}{\sigma_2}$ equals $\frac{c'}{c}$ in our notation, it being recollected that our c is the modulus of the probability-curve supposed to generate the Babbacombe statistics, which we have seen fit to represent by x, and c' is similarly selected to the Churchstoke statistics, our y's. Thus $r = \frac{c'}{c}\ 496{\cdot}4 \div (2921c' \div 2\sqrt{\pi}) = 2\sqrt{\pi}\,495 \div 2921c$, where c is 0·63. Whence $r = 0{\cdot}956$. Dealing similarly with the observations for which ξ is negative, I find $S\eta = -\ 488{\cdot}5$ nearly, and

$$r = -\ 488{\cdot}5 \times 2\sqrt{\pi} \div -\ 2921 \times 0{\cdot}63 = 0{\cdot}941.$$

Taking the mean of the two results, we may, with some confidence, subject to a *probable error* of less than 0·015, I think, put as the coefficient of correlation for the hypothetical generating system of ξ and η, 0·95.

The soundness of the work is verified by finding that the value of c which we deduced from the *moments*, and also from the *percentiles* of the Babbacombe statistics, namely, 0·63 approximately, is practically the same as what may now be found *à posteriori*, so to speak, from the group of η's which we have constructed. By a well-known formula $c = \sqrt{\pi} S\eta \div N$, where the summation extends over all the values of η, all taken positively whatever their direction. Accordingly this $S\eta$ is not quite identical with the sum of the two $S\eta$'s which we have employed in the preceding calculations, in which it was proper to take account of the *sign* of each deviation. However, what is to be added on this account is in the case before us trifling, and we have $S\eta$, in the above-written expression = 1019, whence $c = 0{\cdot}62$. The statistics for Churchstoke stand the same test. The modulus c' as determined *à priori* from the percentiles of the real group, or *à posteriori* from the first powers of the hypothetical group, comes to almost the same, 0·81 nearly.

We are now in a position to answer the question: Given x as the deviation of a Churchstoke barometric height from the median of the Churchstoke height: what is the corresponding Babbacombe height? I purposely word the question somewhat vaguely, to cover two or three cognate inquiries.

[39] With due regard to the *sign* of η, which is *negative* for values of the height at Babbacombe greater than 300.

[40] *Journal of the Royal Statistical Society*, 1897, p. 818.

Corresponding to x we have for ξ, the co-ordinate relating to the generating surface, $\xi^2 + 2 \times 3{\cdot}68\xi = x$. If a section of that hypothetical surface is made through the point ξ perpendicular to the axis along which ξ is measured, there will be traced a normal probability-curve of which the median is at the point $\eta = r\frac{c}{c'}\xi$. We are to suppose this curve *translated*, so that to every member on the hypothetical system measuring η from the axis of ξ, or $a + \eta$ from a horizontal at a distance a below that axis, there should correspond on the original system a distance $(a + \eta)^2$ from the same horizontal. Whence it appears[41] that the *median* of the series of y's corresponding to the given x is $2a \times r\frac{c}{c'}\xi + r^2\frac{c^2}{c'}\xi^2$. That is one answer to the general question.

The question, what is the *centre of gravity* of the strip, or "array," of y, corresponding to an assigned x is answered,[42] by adding to the median half the modulus-squared pertaining to the array, that is $\frac{1}{2}c^2(1 - r^2)$, a very small addendum in the case before us.

The *most probable* value of y corresponding to an assigned value of x is a little below the median. It is found from the following equations:—

(1) $\xi = \sqrt{a'^2 + x} - a.'$

(2) $\mathrm{Y} = \frac{1}{2}\left(r\frac{c}{c'}\xi + a\right) + \sqrt{\frac{1}{4}\left(r\frac{c}{c'}\xi + a\right)^2 - \frac{1}{2}(1 - r^2)c^2}.$

(3) $y = \mathrm{Y} - a^2.$

If the "modes"[43] and medians for y the barometric height at Babbacombe be calculated according to these formulæ for particular values of barometric height at Churchstoke, there is found a satisfactory agreement between theory and observation.

For example, to find the median of the Babbacombe array corresponding to the pressure 299 at Churchstoke, we have x, the deviation of 299 from the Churchstoke median, $= 0{\cdot}75$; ξ, the deviation of the generating group, $0{\cdot}119$; η the median of the array corresponding to ξ on the hypothetical surface

$$= r\frac{c}{c'}\xi = 0{\cdot}95 \times \frac{0{\cdot}63}{0{\cdot}81} \times 0{\cdot}119,$$

when we assign to c, c', and r the values which have been above found $= 0{\cdot}088$; y the distance of the required median from 299·99, the median of the entire Babbacombe group $= 2a\eta + \eta^2 = 2 \times 3{\cdot}68 \times 0{\cdot}088 + (0{\cdot}088)^2 = 0{\cdot}65$; $299{\cdot}99 - 0{\cdot}65 = 299{\cdot}34$ nearly. This calculated position for the median of the Babbacombe array corresponding to the pressure 299 at Churchstoke, agrees with the median of that array, as determined by a simple interpolation from the given observations, viz., 299·27 nearly. Again, take the pressure 298 at Churchstoke. Here $x = 1{\cdot}75$, $\xi = 0{\cdot}27$, $\eta = 0{\cdot}2$, $y = 2 \times 3{\cdot}68 \times 0{\cdot}2 + (0{\cdot}2)^2 = 1{\cdot}51$; $299{\cdot}99 - 1{\cdot}51 = 298{\cdot}48$,

[41] See Appendix, Note 8. [42] *Cf.* above, p. 679.

[43] Professor Pearson's useful term for the position of the greatest ordinate.

which is exactly the result given by observation of the Babbacombe array. Again, for $x = 2{\cdot}75$, the median of the Babbacombe array as "observed" (with the aid of simple interpolation is 297·55, and as calculated is 297·53). And so on. The *modes* of the Babbacombe arrays are evidently a little lower (nearer the axis of x, that is, *larger pressure*) than the respective medians. The accuracy of our *translation* may also be verified by comparing the figures which make up any Babbacombe (or Churchstoke) array as (1) given and (2) calculated. But the comparison proves less satisfactory than might be wished, owing to the accident that in the case before us the correlation is particularly close, the coefficient r is almost *unity*. The calculation of the detailed figures turns upon a coefficient called by Mr. Yule, in the useful article already referred to, $g_2[wg_1]$, which is inversely proportioned to $(1 - r^2)$, and accordingly is liable to a much larger percentage error than r when r is nearly unity. Thus, if we ought to have put 0·965 instead of 0·95 for r, this slight and not unlikely error of about $1\frac{1}{2}$ per cent. on the true value of r, would be attended by an error of above 40 per cent. on the true value of g_2, rendering precarious the calculation by which the arrays are split up into their component squads. But this imperfection belongs to the original material, not to the *translation;* it is not the fault of our method, but the misfortune of our illustration.

With sufficient accuracy for practical purposes, there has been constructed a mathematical representation of the correlation between asymmetrical groups; primarily proper to the cases in which the asymmetry is slight, but capable of being extended, as will be shown in a later section, to other cases.

This claim on behalf of the method of translation may be made independently of its claims to *à priori* validity and accuracy; just as the actuary will retain the Gompertz-Makeham law on account of its special adaptations to his problems, even if he were convinced that the true genesis of the survivorship or mortality curves is not to be found in the hypothesis from which that law is deducible,[44] but in the remarkable theory of the subject which is supported by the reasoning and authority of Professor Karl Pearson.

APPENDIX.

Note 1 (referring to p. 672).

The deduction of the law of error from the supposed conditions is perhaps not as perfect as could be desired. The theory is in the rudimentary state in which Taylor's theorem was before its limitations were studied. Part of the difficulty in the case of the law of error is indeed the same as in the case of Taylor's theorem. The law of error rests upon some such proposition as the follow-

[44] As to the Gompertz-Makeham law, see above, p. 671; as to Professor Pearson's theory, see *Transactions of the Royal Society*, 1895, and *Chance and Death*, I.

ing: if Q is a function of numerous small quantities, independently varying, each over a narrow range; say

$$Q = F[(a_1 + q_1), (a_2 + q_2), \ldots (a_n + q_n)],$$

where a_1 is the centre of gravity of the frequency-curve which represents the range of q_1 (a_1 measured from a point outside the range of q_1); $a_2, a_3 \ldots$ are similarly related to $q_2, q_3 \ldots$; then commonly, though not universally,

$$Q = Q_0 + Q'_1 q_1 + Q'_2 q_2 + \&c. + Q'_n q_n,$$

where Q_0 is what Q becomes when zero is substituted in Q for each of the q's; Q'_1 is what Q_1 becomes when we differentiate with respect to q_1, and substitute zero for each of the variables q_1, q_2, &c.; Q_2, Q_3 are correspondingly defined.

This proposition must be applied with the same caution as Taylor's theorem. The proposition would not hold, for instance, if

$$Q = [(a_1 + q_1) - b_2]^2 + [(a_2 + q_2) - b_2]^2 + \&c.$$

where each of the q's ranges from 0 to $2b$, and each of the a's is very nearly equal to b.[45] Moreover the development involves a difficulty peculiar to the case of probabilities: in the neglect of the second term of the development in comparison with the first, although the first term may occasionally be zero for particular values of the q's, while the second term, being a linear function of the square of the q's, is not similarly liable to vanish.

And even when a linear function of the q's has been substituted for Q, there is still perhaps some precariousness in the proof that the law of frequency for the values of this function is the probability-curve. The two principal proofs which have been offered, by Laplace and by Professor Morgan Crofton,[46] require respectively the use of two somewhat treacherous mathematical instruments, imaginary quantities and partial differential equations. Perhaps it is best to regard the existing demonstrations of the law of error, like the earlier proofs of Taylor's theorem,[47] only as affording a strong *presumption* of its truth.

NOTE 2 (referring to p. 674).

I had before regarded the curve, $y = \frac{N}{\pi} c \div (c^2 + x^2)$ as out of court on the ground that the centre of gravity of each arm of the curve is infinitely distant from the centre. But on further consideration I think that this objection is not fatal. It would logically lead to the condition that a frequency-curve is not admissible if there is some *mean function* of the deviations which becomes infinite for the representative curve, but not for the original group. But this condition would exclude the normal law. For the mean value of the function e^{+x^2}, *i.e.* $\int_{-\infty}^{\infty} y e^{+x^2} dx$, is infinite for that law, though not for an ordinary set of observations.

[45] Other examples will be given in the sequel.

[46] In the *Encyclopædia Britannica*, 9th edit., Art. "Probability." A generalisation of the proof is given by the present writer in the *Philosophical Magazine* for 1896, p. 93.

[47] *Cf.* Demorgan, *Differential Calculus*, p. 70 and p. 48.

The circumstance does indeed render inapplicable the method of comparison which we pursued before, namely, to determine the constant for each compared curve from the mean first power of the deviation (taken positively in each direction). But the method of percentiles is still open.

$$\text{Since } \int_0^x y\,dx = \frac{\mathrm{N}}{\pi} \tan^{-1}\frac{x}{c} = 0{\cdot}25 \text{ when } \frac{x}{c} = 1,$$

c is equateable to the distance from the centre to the observed quartile, or to half the distance between the two observed quartiles, that is to 1·786. Now let us examine how many observations may be expected according to this formula to occur outside a certain point (on either side of the centre) determined by the intersection of the proposed curve with the rival curve, that is one of the normal kind adapted to the same observations.[48] The probable error being 1·786, the modulus for the normal curve is approximately 3·7.[49] The outermost point of intersection between this normal curve and the curve

$$y = \frac{\mathrm{N}\ 1{\cdot}786}{\pi(1{\cdot}786^2 + x^2)}$$

I find to be about ± 5·5. To determine the number of observations outside either point, upon the supposition that the last written formula holds, we have to integrate y between ∞ and 5·5. Putting $x' = x \div 1{\cdot}786$, we have

$$\int_{5{\cdot}5}^{\infty} y\,dx = \int_{3{\cdot}08}^{\infty} \frac{\mathrm{N}}{\pi}\frac{1}{1+x'^2}\,dx' = \frac{\mathrm{N}}{\pi}\cot^{-1} 3{\cdot}08 = \frac{\mathrm{N}}{\pi}\tan^{-1} 0{\cdot}324.$$

From the usual tables the arc whose tangent is 0·324 is found to be almost 18°. Therefore the proportion of (the total number of) observations outside the point + 5·5 is 18° ÷ 180° = 0·1 ; and the same outside the point — 5·5.

But in fact the centre of gravity, as found by Professor Karl Pearson, being 67·2989 inches, we have outside the distance + 5·5 from the centre (by interpolation) 245·6 observations, that is 0·0095 of the total number 25,878; and outside the distance — 5·5 we have 518·8 observations, or nearly 0·02 of the total. Thus whereas in fact there is not quite 0·03 of the total outside the limits ± 5·5, according to the proposed representation there would be 0·2. In other words the proposed curve is in excess, for the tract outside those limits, by some 17 per cent.

But this is not all. As the proposed curve exceeds the given histogram by some 9 per cent. above the point + 5·5, while by hypothesis the half area contained between the curve, the axis of x, and the ordinate through the centre is equal to the corresponding half area for the histogram, it follows that the excess of 9 per cent. above the point + 5·5 must be matched by a defect of 9 per

[48] As the reason for selecting this point, see the paper above referred to, *Philosophical Magazine*, 1887.

[49] Rather less if we use the formula modulus = twice-mean-square of deviation, that mean square being according to Professor Pearson 6·68122 ; rather more if we use the formula modulus = ½ interquartile ÷ 0·4769.

cent. between that point and zero. But, further; as by construction the quartile is the same for the proposed curve and the histogram, the two *loci* must intersect at least once between the centre of the group taken as zero and the quartile, and once between the quartile and $+\infty$. It follows that the defect of area —on the part of the proposed curve compared with the histogram —between zero and $x = 5{\cdot}5$, a defect which amounts, as we have seen, to 9 per cent., is the algebraic sum of at least two parts, whereof one, the greater in absolute magnitude, consists of defect, and the other of excess. But for the present purpose, the measure of inaccuracy, all difference, whether positive or negative, between the area of the representative curve and that of the histogram is treated positively.[50] Therefore the misfit of the proposed curve, according to this test, exceeds 18 per cent. on the positive side of the centre. Similar reasoning applies to the negative side, where the excess of the proposed over the given area is 8 per cent. outside the limit $x = -5{\cdot}5$; whence the discrepancy on the negative side exceeds 16 per cent. Considering both sides, we have altogether a misfit exceeding 34 per cent.

NOTE 3 (referring to p. 674).

The conclusion that the proposed form is not suited to represent the given group of observation may be tested by applying the Method of Least Squares to determine the constants in a curve of the form

$$y = \frac{1}{A + Bx^2},$$

in order that it should fit the given group as well as possible, the group being supposed to be symmetrical. If x_r is the distance from the centre of (the mid-point of the base of) any rectangular strip of unit (one inch base) containing n_r observations, we have approximately $n_r = 1 \div (A + Bx_r^2)$, or $A + Bx_r^2 - \frac{1}{n_r} = 0$. There are in the case before us 27 such equations given by observation, from which 2 equations for A and B are to be derived by the usual method.

Here arises the nice question: What is the *weight* of each of these data? The correct view, I think, is that the weight is proportioned to the number of observations, the length of the ordinate, pertaining to each x_r; for the same reason that induces Laplace in his method of *situation* to take the greatest ordinate as the weight of the median of a (symmetrical) set of observations.[51] Thus, the expression which is to be minimised, according to the Method of Least Squares, is

$$n_1\left(A + Bx_1^2 - \frac{1}{n_1}\right)^2 + n_2\left(A + Bx_2^2 - \frac{1}{n_2}\right)^2 + \&c.$$

[50] As to the criterion of accuracy, compare Pearson *Transactions of the Royal Society*, 1895.

[51] The method has been extended to the quartiles by the present writer.—*Philosophical Magazine*, 1886, vol. xxii, p. 374.

whence we obtain two simultaneous equations for A and B, viz.:—

$$\begin{cases} AS n_r + BS n_r x_r^2 - 27 = 0, \\ AS n_r x_r^2 + BS n_r x_r^4 - S x_r^2 = 0. \end{cases}$$

Dividing each equation by $S n_r$ we have approximately

$$\begin{cases} A + B\mu_2 = 27 \div S n_r, \\ A\mu_2 + B\mu_4 = S x_r^2 \div S n_r; \end{cases}$$

where μ_2 and μ_4 are respectively the mean second power and the mean fourth power of the deviations from the centre of gravity.[52] These figures are given by Professor Pearson as 6·8122 and 135·0234 respectively. Also $S n_r = 25{,}878$. And $S x_r^2$ — the sum of the squares of the distances from the centre of the group of the 27 points at which observations are taken—may thus be evaluated. Take 50·5, one unit below the point at which the first observation occurs, for the origin of $X = a + x$; where a is the distance of that origin from the centre of gravity, that is, according to Professor Pearson's calculation, 16·7989. Then $S x^2 = S(X - a)^2 = SX^2 + Sa^2 - 2aSX = (1^2 + 2^2 + \&c. + 27^2) + 27 \times (16{\cdot}7989)^2 - 2 \times 16{\cdot}7989\,(1 + 2 + 3 + \&c. + 27) = 1849{\cdot}5$.

The equations are then approximately—

$$A + 6{\cdot}8\ B = 27 \div 25{,}878,$$
$$6{\cdot}8\ A + 135\ B = 1849{\cdot}5 \div 25{,}878.$$

There results, I find, with some surprise, a *negative* value for A. The curve must be conceived as starting below the axis of x, descending to negative infinity, which is reached at the point $x = \sqrt{-A} \div \sqrt{B}$, thence jumping to positive infinity, and only then at length beginning to descend in regular fashion towards zero as x continues to increase.

The result would not be altogether inadmissible, if we could suppose the negative and infinite values of the ordinate to occur within less than half a unit measured along the abscissa from the origin. For then, the observations consisting in effect of the areas bounded by ordinates at the distance of a unit of the abscissa from each other, the abnormalities of the central portion of the curve might pass unnoticed. But the range within which these abnormalities occur cannot be supposed so small. For from the above written equations we have—

$$\frac{A}{B} = \frac{27 \times 135 - 6{\cdot}8 \times 1849{\cdot}5}{1849{\cdot}5 \quad - 27 \times 6{\cdot}8} = -\ 5{\cdot}4 \text{ nearly},$$

whence—

$$\sqrt{\frac{-A}{B}} = 2{\cdot}3 \text{ nearly}.$$

The answer thus given by the method of Least Squares, that the proposed representation is inadmissible, appears to me to be deserving of note. It may be confirmed by observing that this is the answer which would be obtained from the method of Least Squares if the observations really conformed to a probability-curve. On this supposition the modulus of the curve being c, and the intervals at which the observations are taken being at first supposed indefinitely small, then for 27 in the above equations

[52] We have assumed the group to be symmetrical, for the purpose of comparing the two curves.

we should put $2Rc \div \Delta x$, where Rc is the extreme limit on either side of the centre at which any observations are to be found. In the case before us, where there are 25,878 observations, R may be taken as 3, since the probability of a deviation extending to the distance of three times the modulus is about 1 in 25,878. Corresponding changes being made in the other terms of the equations, and substituting for μ_2 and μ_4 their equivalents in c, the system becomes

$$\begin{cases} A + B\frac{c^2}{2} = 2Rc \div N. \\ A\frac{c^2}{2} + B\frac{3}{4}c^4 = \frac{2}{3}R^3c^3 \div N. \end{cases}$$

Whence $A = c\left(3R - \frac{2}{3}R^3\right) \div N$; a quantity which must be negative if R is greater than $\sqrt{4{\cdot}5}$; as it is, and may be expected to be if the set of observations is pretty complete. The *quality* of this conclusion, that A is negative, is not altered when we suppose Δx finite and small.

A similar computation applied to the normal form produces no such paradoxical results. There are now 27 equations of the form $A + Bx^2_r = \log n_r$; from which I find by a summary process values of A and B closely agreeing with the values of those constants as ascertained by the ordinary methods, which give for the modulus 3·7 nearly, and therefore

$$A = \log 25{,}878 - \log 3{\cdot}7 - \log \sqrt{\pi},$$
$$B = -\log e \div 3{\cdot}7^2.$$

Note 4 (referring to p. 677).

The most general form of second approximation would consist of the second term of Q (as defined in Note 1), expanded in powers of the elements q_1, q_2, &c. By a suitable transformation, without loss of generality, this term can, in general, be cleared of *products*, and put in the form $b_1 q'_1{}^2 + b_2 q'_2{}^2 + \&c. + b_n q'_n{}^2$ (where q'_1, q'_2, &c., are linear functions of q_1, q_2, &c., b_1, b_2, &c., are constants, positive or negative), while the first term of the expansion is of the form $a_1 q'_1 + a_2 q_2 \times \&c. + a_n q'_n$. Thus Q may be regarded as compounded of n independent elements of the form $(a_1 q'_1 + b_1 q'_1{}^2)$, $(a_2 q'_2 + b_2 q'_2{}^2)$, &c. Now the second approximation to the sum of n elements is in general given by that modification of the normal law which has been called "the asymmetrical probability-curve," referred to by the present writer in former numbers of this *Journal* (1894 and 1895, p. 513), and discussed at length in the *Philosophical Magazine* (1896, p. 20, *et sqq.*). It is cited below in Note 6. This general form of second approximation is not identical with that which is now proposed partly on account of its convenience and usefulness, as well as on the ground that it is *the* appropriate formula sometimes, perhaps often.

NOTE 5 (referring to p. 678).

If the generating probability curve is

$$y = \frac{1}{\sqrt{\pi c}}\, e^{-\frac{(x-a)^2}{c^2}}$$

(referred to the origin O), the curve generated by putting $X = x^2$ is found, by the rule for the transformation of frequency curves, to

$$y = \frac{1}{\sqrt{\pi c}}\, e^{-\frac{(\sqrt{X}-a)^2}{c^2}} \times \frac{1}{2\sqrt{X}},$$

where X is measured like x from O, and may indeed be replaced by x. To determine the three constants g, a, and c, the first three moments of the given observations about their centre of gravity supply three equations—

(1) $a^2 + \frac{1}{2}c^2 = g$
(2) $a^4 + 6a^2\frac{1}{2}c^2 + \frac{3}{4}c^4 = g^2 + \mu_2$
(3) $a^6 + 15a^4 \times \frac{1}{2}c^2 + 15a^2 \times \frac{3}{4}c^4 + \frac{15}{8}c^6 = g^3 + 3\,\mu_2 g + \mu_3$

By the first equation eliminating g from the second and third equations, we have

$$\begin{cases} 2a^2c^2 + \frac{1}{2}c^4 = \mu_2, \\ 6a^2c^4 + c^6 = \mu_3. \end{cases}$$

Eliminating a^2, we have

$\frac{1}{2}c^6 = 3\mu_2 c^2 - \mu_3$; or, putting $c^2 = f$, $f^3 - 6\mu_2 f + 2\mu_3 = 0$.

By the solution of this cubic is to be determined a value of f which is positive, and which makes positive the value of a^2 viz., $(\mu^2 - \frac{1}{2}f^2) \div 2f$.

NOTE 6 (referring to p. 678).

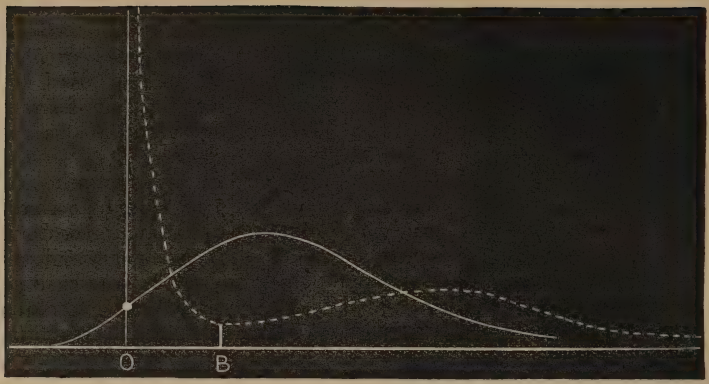
The limitations of the method may be thus stated more generally. Let the generating probability curve be $y = \phi(x - m)$; where m is the distance of the centre from the origin O, which is so taken that the curve formed by putting $X = f(x)$ lies continuously above the origin to the right of the axis y. The generated curve then is

$$y = \phi(x - \alpha) \div f'(x),$$

when for x is substituted its value in terms of X. This becoming infinite when $f'(x) = 0$, it will be proper to take the origin such that $f'(O) = O$.

From this construction it appears that, in order to secure that the generated frequency curve should be of the usual one-headed type, the origin O ought to be well outside the sensible parts of the generating curve, say at a distance of at least *twice* the modulus from the centre; otherwise there will result a form like the dotted curve in the annexed figure, where the plain curve is meant for the generating probability curve.

Fig. 2.



It should be remarked, however, that this paradoxical result is not necessarily so fatal to the proposed representation as at first sight appears. For it is possible that the descent of the curve from infinity to the minimum, after passing which it resumes the general shape of ordinary frequency curves, may be executed within such narrow limits as not to leave any trace in the given statistics. For example, in the case of the very asymmetrical group of observations representing the duration of American marriages—instanced by Professor Pearson (*Transactions Royal Society*, 1895, p. 394), it is easy to find a construction like the one in the figure apt to generate the given group. Let x be the distance (positive or negative) of any member of the generating group from O; and let x^2 be the measure of a corresponding member of the given group—that is the duration of a marriage. The thus generated group may have a shape like the dotted curve in the figure. But it may well happen that OB is less than unity, and that the area bounded by the dotted curve standing on the first unit of the axis x is less than the area standing on the second unit of x. Accordingly, as the statistics are graduated in units—giving the number of marriages which have been dissolved in the first year, the number in the second, and so on—the excursion of the curve to infinity will escape notice.

I do not mean that it would be easy to find a simple construction which would both mask the irregularities of the lower extremity, and also fit the other extremity. And even if such a construction could be found, it would not be entitled to the consideration which on the principles here maintained attaches to constructions in which the origin O is practically outside the generating probability curve. For regarding each member of the given group as hypothetically of the form $f(a + e)$, where e is the deviation of the corresponding observation of the generating group from the centre of that group, when e is small with respect to a, there is some presumption that $f(a + e)$ may be replaced by $f(a) + ef'(a) + e^2\frac{1}{2}f''(a)$. But when e is greater than a, this presumption no longer I think exists; to affirm it would be to take

for granted that f may be regarded as approximately a rational function of the second degree of a, as well as e. But when O is within the generating curve, as in the figure, then e is greater than a in a sensibly large number of cases. Accordingly the *à priori* basis of the construction fails; the case is to be relegated to the subdivision in which forms with less perfect *à priori* basis will be treated.

If we take as the practical limit between the two classes of construction the condition that a should be at least *twice* the modulus of the generating curve, we may thus measure the extent of asymmetry which is compatible with the present construction. By Note 5 we have, when $a = 2c$,

$$8\tfrac{1}{2}c^4 = \mu_2 \qquad 25c^6 = \mu_3.$$

$$\text{Whence } \mu_3 \div (2\mu_2)^{\frac{3}{2}} = \frac{25}{70} = \frac{1}{3} \text{ nearly.}$$

When the skewness becomes greater than that which is just measured, we may suspect the applicability of our method.

This is very much the same limit as that which restricts the applicability of the *general* formula for slight asymmetrical groups, viz. :—

$$y = \frac{1}{\sqrt{\pi}c} e^{-\frac{x^2}{c^2}} \left[1 - \frac{2j}{(2\mu_2)^{\frac{3}{2}}}\left(\frac{x}{c} - \frac{2}{3}\frac{x^3}{c^3}\right)\right].$$

(See *Philosophical Magazine*, 1896, p. 91). Accordingly the now proposed formula has no great advantage in respect of the range of cases to which it is applicable. Its advantages consist in its somewhat greater manageability, its special adaptation to the problem of correlation, and the suggestions which it affords for the treatment of cases to which it is not strictly applicable—

Note 7 (referring to p. 682).

In the determination of the median and quartiles by interpolation, I confine myself to *four* data, not only to save trouble, but also because to employ all the data, $n_{\pm 3}$, &c., would be virtually to treat the curve as algebraic; to take for granted what is the subject of inquiry, namely, what is the equation of the curve representing the given observations? But to utilise only four of the data is not, I think, open to the same objection, and gives no advantage to one formula proposed as representative of the group over another.

In carrying out this purpose we have a choice between applying Lagrange's method directly, to determine x the abscissa of the percentile as a function of n, the number of observations reckoned from a fixed point; or, indirectly, determining n as a function of x, and equating that function to the value which it ought to have at the percentile. I begin with the latter method as perhaps more elegant.[53]

Thus to determine the median in the case before us—the statistics

[53] *Cf.* Boole, *Finite Differences*, Chap. iii, Art. 4 and Art. 6.

of barometric height for Babbacombe—we have the following data :—

Point up to which the Number of Observations, counted from the lower extremity, is given.	Number of Observations up to each Point.	Δ_1.	Δ_2.	Δ_3.
301·5	112·15			
		46·96		
300·5	159·11		− 1·04	
		45·92		− 3·61
299·5	205·03		− 4·65	
		41·27		
298·5	246·30			

Let u_o be sum of observations up to the point which is distant x from 301·5. Then by a well known formula of interpolation,

$$u_x = u_o + x\Delta u_x + \frac{x(x-1)}{2}\Delta^2 u_x + \frac{x(x-1)\ (x-2)}{2\cdot 3}\Delta^3 u_x.$$

Substituting the values given above, we have for the median at which $u_x = \frac{1}{2}365$ the cubic equation—

$$182\cdot 5 = 112\cdot 15 + x46\cdot 96 - \frac{x(x-1)}{2}1\cdot 04 - \frac{x(x-1)\ (x-2)}{6}3\cdot 61.$$

Solving this cubic equation I find $x = 1\cdot 5016$. Subtracting this from 301·5, I find for the median 299·9984; a result which closely agrees with that which is obtained by the ordinary method of proportional parts, as thus :—

Median = 300·5 − (182·5 − 159·11) ÷ 45·91 = 299·9966.

Both results are in close accord with that which Professor Pearson has computed from his own hypothesis as to the genesis of the group, viz., 299·986.

There is naturally more difference between the first and second approximation in the case of the quartiles. For the first or lower quartile I find 303·5 − 1·4894 = 302·0106, by the solution of the cubic equation

$$43\cdot 08 + x \times 30\cdot 19 + \frac{x(x-1)}{2}8\cdot 69 - 0\cdot 61\frac{x(x-1)\ (x-2)}{2\cdot 3} = \frac{1}{4}365\ ;$$

by the method of proportionate parts 302·038, further from the centre of the group, as might be expected.

For the upper quartile we have the cubic—

$$55\cdot 95 + x26\cdot 85 + \frac{x(x-1)}{2}9\cdot 27 - \frac{x(x-1)\ (x-2)}{2\cdot 3}4\cdot 12 = \frac{1}{4}365,$$

for x, the distance from 296·5. For x I find 1·2537, and for the quartile 297·7537. The method of proportional parts gives 297·734.

Otherwise, according to Lagrange's formula of interpolation, I put x as a function of y, thus :—

$$x = 0 \times \frac{(y-b)\ (y-c)\ (y-d)}{(a-b)\ (a-c)\ (a-d)} + 1 \times \frac{(y-a)\ (y-c)\ (y-d)}{(b-a)\ (b-c)\ (b-d)}$$
$$+ 2 \times \frac{(y-a)\ (y-b)\ (y-d)}{(c-a)\ (c-b)\ (c-d)} + 3 \times \frac{(y-a)\ (y-b)\ (y-c)}{(d-a)\ (d-b)\ (d-c)};$$

where y, a, b, c, d, have the three sets of values set forth in the subjoined table (see the statement at p. 678 above).

	Q_1.	M.	Q_2.
y	91·25	182·5	91·25
a	43·08	112·15	55·95
b	73·27	159·11	82·80
c	112·15	205·03	118·92
d	159·11	246·30	160·19

Roughly evaluating x for each set of values, I find

$$Q_1 = 303·5 - 1·494 = 302·006$$
$$M = 300·5 - 1·495 = 299·995$$
$$Q_2 = 298·5 + 1·2613 = 297·761.$$

Putting together these results, we have

$$Q_1 = 302·0106;\ M = 299·9984;\ Q_2 = 297·7537,$$

whence, from the formula given on page 681, I find—

$$4ac \times 0·4769 \ldots = 2·1569$$
$$2c^2 \times 0·4769^2 \ldots = 0·2325$$

whence $ac = 2·23$ $c^2 = 0·42$, a result in fairly close agreement with that found by the method of moments.

NOTE 8 (referring to p. 688).

Let the equation to the generating probability surface be

$$\zeta = \frac{1}{\pi cc'\sqrt{1-r^2}}\, e^{-\left[\frac{\xi^2}{c'^2} - 2r\frac{\xi\eta}{cc'} + \frac{\eta^2}{c^2}\right]\frac{1}{1-r^2}},$$

referred to its centre as origin. The same expression gives the curve traced by the surface on a plane perpendicular to the axis of ξ at any assigned distance from the origin. The curve presented by thus treating ξ as a constant is of the "normal" species, having for its centre the point whose ordinate is $rc\frac{\xi}{c'}$, and for modulus $c^2(1-r^2)$.

To consider the section of the given surface generated by this section of the hypothetical surface, put $\zeta = \mathrm{J}e^{-\frac{(y-\mathrm{A})^2}{\kappa^2}}$; where ζ is the frequency of the hypothetical observations, $\mathrm{y} = a + \eta$, $\kappa^2 = (1-r^2)c^2$, $\mathrm{A} = a + rc\frac{\xi}{c'}$, J is another "constant" involving ξ supposed to be assigned, and a, c, c' and r are supposed to have been determined. The curve thus represented is to be *translated* by putting $\mathrm{Y} = \mathrm{y}^2$, and transforming according to the usual rule.

There results $z = \frac{\mathrm{J}}{2\sqrt{\mathrm{Y}}}e^{-\frac{(\sqrt{\mathrm{Y}}-\mathrm{A})^2}{\kappa^2}}$

In order that z should be a maximum, the condition $\frac{dz}{d\mathrm{Y}} = 0$ must in general be fulfilled. Rejecting a factor involving $\frac{1}{\mathrm{Y}}$ which evidently corresponds to a least possible value of z at $\mathrm{Y} = \infty$, we have as the condition of maximum, or minimum, of z

$$\tfrac{1}{2}\frac{1}{\sqrt{\mathrm{Y}}} + \frac{\sqrt{\mathrm{Y}} - \mathrm{A}}{\kappa^2}. \quad \text{Whence}$$

$$\mathrm{Y} - \mathrm{A}\sqrt{\mathrm{Y}} + \tfrac{1}{2}\kappa^2 = 0;$$

$$\sqrt{\mathrm{Y}} = \frac{\mathrm{A}}{2} \pm \sqrt{\frac{\mathrm{A}^2}{4} - \tfrac{1}{2}\kappa^2}.$$

The *greater* of these values is to be selected, the smaller corresponding to a minimum, the point (B, in Fig. 2, p. 696) at which the generated curve having descended from infinity in the neighbourhood of $y = -a$ begins to ascend after the usual fashion of a frequency curve. The value of Y thus determined is to be equated to $a^2 + y$.

Thus the *most probable* value of y corresponding to an assigned x is expressed in terms of A and κ, the latter involving only the ascertained coefficients r, c, and c', the former also ξ; which is obtained by a quadratic equation in terms of x.

The analytical relation between the assigned value of x and the most probable value of y is not very simple; but the steps of computation by which the latter is derived from the former are very easy.

The solution contrasts in the latter respect, if not in the former, very favourably with what is perhaps the more *general* form (*cp.* note 5) of the relation between an assigned x and the *most probable* y. It is shown in my article on "The Compound Law of Error" (*Philosophical Magazine*, March, 1896), that the second approximation to the surface which represents the frequency of two variables, each a function of a great number of independent elements, is of the form—

$$ke^{-(ax^2 + by^2 + cxy)} \times [1 + dx + ey + fx^3 + gxy^2 + hxy^2 + iy^3];$$

where the coefficients involve not only the three mean *second* powers obtained by summing the observed values of x^2, xy, and y^2, but also the four mean *third* powers obtained by summing

$$x^3,\ x^2y,\ xy^2, \text{ and } y^3$$

(*loc. cit.* p. 213, the transformation from principal axes which is there indicated being here supposed to have been effected). From the condition $\left(\frac{dz}{dy}\right) = 0$ we can obtain an equation for the *most probable* value of y corresponding to a given x. This is the most general solution of the problem (in cases where the asymmetry is not great). But it involves the labour of solving a biquadratic equation, in addition to the labour of determining the mean third powers.

(*To be continued.*)

II.—*Deaths in Child-birth; with a Table showing the Probable Number of Children from Marriage between Couples at Certain Ages.* *By* R. G. Salmon, F.I.A.

In June last Mr. Coghlan read a paper[54] before the Society on the above subject, and with reference to his results as shown in Col. (8) of Table VII,[55] viz., "Total average number of Children to Women Marrying at age x," I may perhaps draw special attention to the methods by which the results have been obtained, and to the meaning of such results, as it would appear that a different method of procedure might perhaps give, theoretically at least, results which would convey a more accurate and useful meaning than those shown.

In the paragraph[56] next but one before the Table VII Mr. Coghlan says: "the final Column (8) is obtained by summing Col. 7," which is the number of children born annually to each couple at the given ages." It appears then that for couples to have, on the average, the number of children as tabulated in Col. 8, it would be necessary for the husband and wife to live to at least the ages of 55 and 50 respectively, and that therefore Col. 8 shows the probable number of children which might be expected if the husband and wife live to the ages of 55 and 50 respectively.

Useful information would be such as would enable a reply to be given to the more general inquiry of "what is the probable number of children to be expected as a result of marriage at certain ages?" In order to answer this we must apply the probabilities of living to any age after marriage to the probable number of children expected in that year of age, assuming that the lives are in existence at the beginning of the year. Adopting Mr. Coghlan's notation, and calling his Col. 7 (Children Annually) $=C_{xy}$, we have the

$$\left.\begin{array}{l}\text{Probable number}\\ \text{of children to}\\ \text{be expected of a}\\ \text{couple marrying}\\ \text{at ages } x \text{ and } y\end{array}\right\} = C_{xy} + P_{xy} \cdot C_{x+1\,.\,y+1} + P_{xy} \cdot P_{x+1\,.\,y+1} \cdot C_{x+2\,.\,y+2} + \ldots\ldots + P_{xy} \cdot P_{x+1\,.\,y+1} \ldots\ldots P_{49\,.\,54} \cdot C_{50\,.\,55}.$$

These results may be obtained by a continuous method, and assuming Mr. Coghlan's results in Col. (7) the following will be the

[54] Printed in the *present* volume of the *Journal, ante,* pp. 518—528. Mr. Coghlan will contribute some further observations on the subject to the next issue of the *Journal*—Ed.

[55] See p. 526 *ante.*

[56] P. 525 *ante,* line 12 from bottom.

Probable Number of Children to be Expected as a result of Marriage among Couples of Ages x and y.

x.	*y.*	Number of Children.	*x.*	*y.*	Number of Children.
20	25	6·4097	36	41	1·6086
21	26	6·0122	37	42	1·3703
22	27	5·6435	38	43	1·1404
23	28	5·2896	39	44	0·9200
24	29	4·9497	40	45	0·7125
25	30	4·6221	41	46	0·5291
26	31	4·3062	42	47	0·3727
27	32	4·0032	43	48	0·2562
28	33	3·7100	44	49	0·1677
29	34	3·4261	45	50	0·1022
30	35	3·1481	46	51	0·0568
31	36	2·8770	47	52	0·0284
32	37	2·6110	48	53	0·0123
33	38	2·3500	49	54	0·0057
34	39	2·0936	50	55	0·0019
35	40	1·8526			

III.—*The Statistics of Wages in the United Kingdom during the last Hundred Years.* (Part I.) *Agricultural Wages. By* A. L. Bowley, M.A.

Though a very great number of books and reports containing wage statistics are in existence, no serious attempt has yet been made to write the history of wages. I do not propose to undertake this task, but only to prepare the way for some future historian, by collecting all the statistical information I am able to find on the subject, and tabulating and summarising them as completely as the nature of the data allows, and in such a way that comparisons for any required purpose may easily be made. At the same time I have in view the construction of index-numbers, which shall indicate year by year the relative height of wages for groups of occupations and for the whole sphere of industry.

To publish all existing statistics and to work them up completely would be far beyond both the space and the time at my disposal. The method adopted will be to tabulate those figures which have direct bearing on general averages, excluding others which, though giving interesting details for various places and subdivisions of occupations, do not help us to obtain a general view of the course of wages. To save space it will be necessary to leave all the rough material unpublished, and it will not even be possible to give complete references for every figure. I hope, however, to give all important references, and to make the general sources of information and the method of tabulation sufficiently clear to enable readers to judge the probable accuracy of the resulting figures. My general method will be the same as that used in a

former paper,[57] where estimates were given for several industries from 1860-91. Some of the conclusions there arrived at may be modified by the more complete information now at my disposal, and some modifications of method will become necessary to adapt the calculation to the heterogeneous material on which it will depend.

I hope to publish statistical monographs on different trades quarter by quarter, as the Editor can find room and the material is ready. This method will be more suitable than waiting till all is ready, and publishing the whole calculation in one, because I hope to obtain criticisms both as to methods and results during the course of the work from any who have special knowledge of the course of wages in separate trades, or who have worked in the same field. I cannot expect to entirely avoid mistakes in dealing with such a variety of industries, each with its special pit-falls for the student of wages, nor can I hope that I have found all the information extant in all cases; but if friendly critics will consider the difficulty and magnitude of the undertaking, they will I am sure be willing to point out any errors obvious to them, and give me the benefit of any information they may possess, so making it possible to place the final result, the figures which will show the general course of English wages, on as firm a basis as possible.

Under the term *wages* I include the total throughout a year of all payments made to those who are generally included in the working class, in money, together with the value of all payments in kind, privileges, and perquisites at the price current at the special time and place.

I.—Agricultural Wages.

The following table gives a view of the chief general information respecting the weekly money wages of agricultural labourers. Payment in kind is only included in those counties where free board or lodging is general. The relation of these figures to wages, as defined above, will be considered presently.

[57] See *Journal* of the Royal Statistical Society (vol. lviii), June, 1895.

General Course of

	1	2	3	4	5	6	7	8
	1767-70.	1795.	1824.	1833.	1833.	1833.	1837.	1850.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
Middlesex	9 5	8 –	11 3	13 8	13 –	13 3	11 6	11 –
Surrey	9 –	10 6	10 8	12 9	12 –	12 7	10 6	9 6
Kent	9 9	10 6	11 9	13 7	13 1	13 7	12 –	11 6
Sussex	8 6	10 –	9 6	12 6	12 1	12 8	10 7	10 6
Hants	8 –	9 –	8 6	10 4	10 2	11 1	9 6	9 –
Berks	7 6	9 0	8 9	11 –	10 5	11 7	9 –	7 6
S.E. average	**8 8**	**9 6**	**10 1**	**12 4**	**11 10**	**12 6**	**10 6**	**9 10**
Index number...	*63*	*73*	*78*	—	*91*	*91*	*81*	*76*
Oxford	7 –	8 6	8 1	10 7	10 1	10 8	8 6	9 –
Herts	7 6	8 –	9 –	11 4	11 –	12 1	9 6	9 –
Bucks	8 –	8 –	8 3	10 9	10 2	10 6	9 6	8 6
Northants	6 6	7 –	8 –	11 –	10 3	10 9	9 –	9 –
Hunts	7 5	8 6	7 6	12 6	10 5	12 1	9 6	8 6
Beds	7 3	7 6	8 6	10 3	10 –	10 10	9 6	9 –
Cambridge	7 4	8 2	9 –	11 1	10 6	11 3	9 6	7 6
S.M. average	**7 3**	**8 –**	**8 4**	**11 1**	**10 4**	**11 2**	**9 3**	**8 8**
Index number...	*54*	*64*	*67*	—	*83*	*83*	*74*	*70*
Essex	7 9	9 –	9 4	10 9	10 3	10 11	10 4	8 –
Suffolk	7 11	10 6	8 3	10 2	9 11	11 2	10 4	7 –
Norfolk	8 –	9 –	9 2	11 2	10 9	11 8	10 4	8 6
E. average	**7 11**	**9 6**	**8 11**	**10 8**	**10 4**	**11 3**	**10 4**	**7 10**
Index number...	*60*	*80*	*75*	—	*87*	*87*	*87*	*66*
Wilts	7 –	8 4	7 6	9 5	9 1	9 2	8 –	7 3
Dorset	6 9	8 –	6 11	8 8	8 2	8 4	7 6	7 6
Devon	7 5	7 –	7 6	9 –	9 –	9 5	8 –	8 6
Cornwall	6 9	8 6	8 3	9 –	8 11	8 8	8 9	8 8
Somerset	6 5	7 3	8 2	9 –	8 6	8 4	8 8	8 7
S.W. average	**6 10**	**7 10**	**7 8**	**9 –**	**8 9**	**8 9**	**8 2**	**8 1**
Index number...	*59*	*67*	*66*	—	*75*	*75*	*70*	*69*
Gloucester	6 9	7 –	9 3	10 –	9 6	9 3	9 –	7 –
Hereford	5 10	8 –	7 –	8 6	8 1	8 10	8 –	8 5
Salop	6 4	7 6	8 10	9 5	9 2	9 6	9 –	7 3
Staffordshire	6 4	7 6	10 7	11 8	11 1	11 9	12 –	9 6
Worcester	6 9	8 6	8 2	10 –	9 6	10 1	9 6	7 8
Warwick	8 –	7 6	8 10	11 11	10 10	11 7	10 –	8 6
W.M. average	**6 8**	**7 8**	**8 9**	**10 3**	**9 8**	**10 2**	**9 7**	**8 1**
Index number...	*51*	*61*	*70*	—	*77*	*77*	*76*	*65*

Note.—These figures must only be used in conjunction with

Agricultural Wages.

9	10	11	12	13	14	15	16	17	
1860.	1861.	1867-69	1869.	1869-70	1870.	1872.	1880.	1892.	
s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	
—	12 9	—	—	—	13 –	—	15 –	14 1	Middlesex
12 9	12 4	13 9	13 6	13 6	13 6	14 2	15 6	15 –	Surrey
11 11	13 6	13 6	14 3	13 7	14 –	15 2	15 9	14 6	Kent
11 6	11 6	13 3	11 10	11 10	12 –	13 4	13 6	12 –	Sussex
12 –	10 6	11 –	11 –	10 11	10 6	14 –	12 –	11 6	Hants
11 –	10 6	11 –	10 6	10 1	9 6	14 –	12 3	11 –	Berks
11 10	**11 10**	**12 6**	**12 3**	**12 4**	**12 1**	**14 1**	**14 –**	**13 –**	S.E. average
89	*90*	*96*	*92*	*92*	*92*	*106*	*108*	*100*	Index number
—	10 8	10 6	—	10 10	11 5	—	12 9	12 –	Oxford
9 11	10 –	11 –	13 2	12 7	12 3	12 6	13 6	11 6	Herts
—	10 8	12 –	—	12 10	11 5	—	12 9	12 4	Bucks
11 –	11 6	12 6	12 2	11 10	11 6	16 –	13 6	14 –	Northants
10 9	11 –	10 6*	13 6	12 –	11 –	12 6	12 6	13 –	Hunts
10 3	11 6	11 6	12 6	12 3	12 –	12 –	12 6	12 6	Beds
10 –	11 –	10 6*	11 –	10 10	12 1	11 5	13 6	12 –	Cambridge
10 5	**10 11**	**11 2**	**12 6**	**11 10**	**11 8**	**12 11**	**13 –**	**12 6**	S.M. average
79	*89*	*90*	*95*	*95*	*95*	*98*	*104*	*100*	Index number
11 6	12 –	11 6	11 11	11 6	11 –	15 9	12 6	11 6	Essex
12 4	11 6	11 6*	10 9	10 11	11 –	13 –	12 6	12 –	Suffolk
10 6	10 6	12 –	11 3	11 4	11 6	12 9	12 6	12 –	Norfolk
11 5	**11 4**	**11 8**	**11 4**	**11 3**	**11 2**	**13 10**	**12 6**	**11 10**	E. average
96	*96*	*99*	*95*	*95*	*95*	*116*	*106*	*100*	Index number
9 6	9 6	10 –	10 7	10 7	10 3	11 4	11 9	10 –	Wilts
10 –	9 6	9 –	9 2	10 1	10 3	10 4	10 9	10 –	Dorset
9 9	9 –	9 6	10 –	10 2	10 3	11 –	13 –	13 6	Devon
10 6	9 6	11 –	11 –	11 –	11 –	13 –	13 9	14 –	Cornwall
9 10	9 6	9 6	10 7	10 5	10 –	14 –	12 6	11 –	Somerset
9 11	**9 5**	**9 10**	**10 3**	**10 5**	**10 4**	**11 11**	**12 4**	**11 8**	S.W. average
86	*81*	*84*	*89*	*89*	*89*	*104*	*106*	*100*	Index number
9 6	9 6	12 –	11 4	10 9	10 3	13 4	13 3	10 6	Gloucester
9 1	9 9	10 6	9 11	10 1	10 –	12 5	11 9	11 –	Hereford
10 1	10 6	10 6	11 3	13 6	12 –	14 3	13 3	14 –	Salop
12 6	12 –	13 –	13 –	13 –	13 –	14 6	14 6	16 –	Staffordshire
10 –	10 –	11 –	12 6	11 9	11 –	13 3	13 –	12 –	Worcester
10 9	11 –	12 –	12 7	12 7	12 –	13 9	14 3	11 6	Warwick
10 4	**10 6**	**11 6**	**11 9**	**11 11**	**11 5**	**13 7**	**13 4**	**12 6**	W.M. average
85	*88*	*92*	*96*	*96*	*96*	*111*	*107*	*100*	Index number

the explanatory notes. Figures in small type are interpolated.

General Course of

	1	2	3	4	5	6	7	8
	1767-70.	1795.	1824.	1833.	1833.	1833.	1837.	1850.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
Leicester	6 7	11 –	9 10	12 –	11 2	10 3	10 –	9 6
Rutland	7 6	9 –	—	12 6	12 2	11 9	—	—
Lincoln	7 –	10 6	10 2	15 –	13 4	12 5	12 –	10 –
Notts	9 –	9 –	10 3	14 –	12 10	12 6	12 –	10 –
Derby	6 3	9 3	10 10	13 –	12 –	9 10	12 –	11 –
N.M. average	**7 3**	**9 9**	**10 3**	**13 4**	**12 3**	**11 4**	**11 6**	**10 1**
Index number	*52*	*64*	*68*	—	*81*	*81*	*76*	*67*
Cheshire	6 8	9 –	10 8	10 6	9 10	10 8	13 –	12 –
Lancashire	6 6	13 6	12 5	13 –	12 2	10 –	12 8	13 6
York, W.	6 –	11 –	12 5	12 1	11 5	10 9	12 –	14 –
,, E.	7 6	11 3	11 8	12 6	11 –	11 1	12 –	12 –
,, N.	6 6	10 –	10 3	11 11	11 4	9 3	12 –	11 –
Durham	6 6	9 –	11 6	11 9	11 –	10 9	12 –	11 –
Northumberland	6 –	10 6	11 5	13 –	11 5	11 5	12 –	11 –
Cumberland	6 6	9 –	12 2	11 8	10 8	9 7	12 –	13 –
Westmoreland	6 2	10 –	12 –	12 9	11 –	9 11	12 –	12 –
N. average	**6 6**	**10 4**	**11 7**	**12 2**	**11 1**	**10 5**	**12 2**	**12 2**
Index number	*39*	*63*	*71*	—	*66*	*66*	*74*	*74*
Monmouth	6 6	9 –	10 –	11 9	10 8	10 –	10 6	9 8
Wales	5 6	6 8	8 –	8 8	8 2	8 6	7 6	6 11
General average	7 2	8 11	9 7	11 4	10 8	10 8	10 3	9 6
General index number	*53*	*66*	*71*	—	*79*	*79*	*76*	*71*

Note.—These figures must only be used in conjunction with

NOTE.

Col. 1 gives the wages for 121 villages, stated by *Arthur Young* in his *Northern and Southern Tours*, as grouped by *Caird* (*English Agriculture*, 1850-51). Col. 8 gives Caird's statement for 1850. Col. 2 gives county averages obtained by a comparison of *Eden's State of the Poor* with Young's complete publications. 1795 was a year of transition, and the actual averages stated may apply, perhaps, to 1794 or 1796, but there can be little doubt that the general average reached the value of 9*s.* 2*d.* at about this date.

In Col. 3 are given average rates deduced from the *Report of the Commission on Paying Labourers' Wages out of Poor Rates*, 1824, and are almost identical with those given by *Purdy* in his comparison of agricultural wages in 1824, 1837 and 1860, published in vol. xxiv of this *Journal*, and obtained from the same source. Cols. 4, 5 and 6 are from the returns collected from more than

Agricultural Wages—Contd.

9	10	11	12	13	14	15	16	17	
1860.	1861.	1867-69	1869.	1869-70	1870.	1872.	1880.	1892.	
s. *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	
13 3	12 –	12 –	13 3	13 1	13 –	16 6	13 –	15 –	Leicester
11 6	12 –	12 –	12 3	12 4	12 –	16 –	—	—	Rutland
13 1	14 3	14 3	14 1	14 –	13 6	17 8	14 3	14 8	Lincoln
12 9	13 6	12 7	13 1	13 2	13 –	16 8	14 –	15 –	Notts
12 –	12 –	13 5	13 6	13 10	14 –	17 2	15 6	16 –	Derby
12 6	**12 9**	**12 10**	**13 3**	**13 3**	**13 1**	**16 10**	**14 2**	**15 2**	N.M. average
82	*85*	*85*	*87*	*87*	*87*	*112*	*93*	*100*	Index number
11 6	13 –	13 1	13 6	13 6	13 6	16 6	15 4	15 –	Cheshire
14 –	13 –	15 –	14 3	15 –	15 –	15 8	17 6	18 –	Lancashire
13 7	12 6	14 6	17 –	16 5	15 3	17 –	16 6	16 –	York, W.
—	10 11	14 6	—	14 11	13 2	—	15 –	15 6	„ E.
13 10	13 6	14 6	15 8	15 4	13 6	15 10	16 6	15 6	„ N.
14 3	14 3	16 6	16 –	16 –	16 –	20 6	—	—	Durham
14 6	13 6	16 6	17 3	16 7	16 6	19 –	17 –	17 –	Northumberland
13 6	13 6	14 4	13 9	14 9	15 –	19 –	18 –	18 –	Cumberland
14 3	15 9	15 7	15 11	16 1	15 6	19 6	—	—	Westmoreland
13 8	**13 4**	**15 –**	**15 5**	**15 5**	**14 10**	**17 11**	**16 7**	**16 5**	N. average
83	*83*	*91*	*94*	*94*	*94*	*109*	*101*	*100*	Index number
11 9	11 6	13 8	12 6	12 11	13 9	18 6	12 –	12 6	Monmouth
11 –	11 4	12 10*	11 10	11 10	11 10	16 –	—	—	Wales
11 7	**11 7**	**12 4**	**12 7**	**12 7**	**12 5**	**14 10**	**13 7**	**13 5**	General average
87	*88*	*92*	*94*	*94*	*94*	*111*	*101*	*100*	General index number

the explanatory notes. Figures in small type are interpolated.

1,000 parishes scattered through the kingdom by the *Poor Law Commissioners* in 1833. Col. 4 gives the averages of the summer rates, Col. 5 of the average of the summer and winter rates, Col. 6 of the average total annual earnings divided by 52. Col. 7 is directly from *Purdy's* paper, and was obtained by him from unpublished returns; Col. 8 is directly from *Caird*. Cols. 9 and 10 are calculated from the returns of agricultural wages collected officially for Michaelmas and Christmas, 1860, and Lady Day, 1861. Only the first two of these were used by Purdy, and the average of these is given in Col. 9, while Col. 10 contains the figures for Lady Day.

Cols. 11, 16 and 17 are from *Mr. Little's* summary of the commissions on *Women and Children in Agriculture*, 1867-69, and on *Agricultural Interests*, 1880-81. The table used is on p. 61, vol. v, part i, *The Agricultural Labourer*, in the Labour Commission, 1894. Figures marked * in Col. 11 are not given by Mr. Little, but obtained directly from the evidence. Col. 16 is practically the

same as a table by Mr. Druce in the 1886 Depression Commission. Cols. 12, 13, 14 and 15 are from further official publications similar to that from which Cols. 9 and 10 were taken, which give wages for Michaelmas and Christmas, 1869 and 1872, and Lady Day and Midsummer Day, 1870. Cols. 12 and 15 state the averages for the last two quarters of 1869 and 1872 respectively; Col. 13, of the four quarters 1869-70; and Col. 14 gives the wages for Lady Day, 1870.

These seventeen columns contain the only nearly complete lists that I have been able to find. None of them are original, and indeed they have been grouped together in twos and threes before, but I have not been completely satisfied with the previous treatments of them, which, though often sufficient for their immediate purpose, do not afford a complete comparison.

Statements of agricultural wages may be simple estimates of current weekly wages, or may include special rates for hay-time and harvest, or may include special payments throughout the year. Again, statements of Michaelmas wages frequently include harvest earnings, and of Midsummer wages high rates for hay, while in winter wages allowance is frequently made for time lost by wet weather. The difference between such estimates for the same year in the same place may easily be greater than the whole variation throughout the century. It is therefore necessary to know exactly to what the statements given by these various authorities actually referred. When the quantity given is simply the "current" wage, with no qualification and for no stated season, it may generally be taken as the wage paid in summer, not influenced by haytime or harvest. This I take to be the case in Cols. 3 and 7. When wages are given for both summer and winter, their average generally represents nearly the same thing as this "current" wage, for the summer wage is often increased by the influence of haytime. Both the "current" wage and the average for summer and winter are very nearly equal to that paid at Lady Day, when the low winter wage is over, and special payments have not begun. This Lady Day wage is again very nearly equal to the average of those at the four quarter days, as is shown in Cols. 13 and 14. These conclusions have been reached by a careful study of the thousands of separate items which have gone to make up these averages. We may therefore expect that the following columns represent estimates of similar quantities: 2, compiled sometimes from "current" wages, sometimes from summer and winter wages; 3, "current" wages; 5, average of summer and winter wages; 7, "current" wages; 8, "current" wages, though Caird does not to my knowledge define them; 11, 16 and 17, which I judge from Mr. Little's report to represent the averages of all money wages, which are not special payments; 13, the average of the four quarter days.

The first step in deducing the index numbers was therefore to average these columns for the whole country and the seven geographical divisions, and, taking 100 to stand in all cases for the wage in 1892, to calculate numbers for the previous years in proportion for the columns just mentioned. Then the indices

for Col. 14 (Lady Day) was assumed to be the same throughout as those in Col. 13 (the four quarters), and Col. 10 (Lady Day, 1861) was calculated in proportion. It was found that Col. 5 (average of summer and winter) was practically the same, whether obtained by the first or second calculation.

It was next necessary to obtain numbers to compare with Purdy's Michaelmas and Christmas averages for 1860, and to utilise the corresponding averages for 1872. This was done by isolating Michaelmas and Christmas in 1869 (Col. 12), and assuming that the index numbers for this column were identical with those for the four quarters (Col. 13), and then taking proportionate numbers for Cols. 9 and 15. The results in Cols. 9 and 10 harmonise nearly completely, but indicate rising wages at this time in S.M. and W.M. groups, and falling wages in S.W. The returns are not sufficiently definite to make this certain.

Col. 4 is inserted to show that summer wages are too high for this comparison, and it was not found that it could be used to further the comparison.

There remain Cols. 1 and 6. Arthur Young's statements of wages were intended to include payment in haytime and harvest, and the money value of all food. I cannot find that Caird, in his comparison of 1770 with 1850, allowed for the fact that these wages of 1770 were higher than "current" wages, which were apparently those which he was calculating. I therefore looked for an estimate more strictly comparable, and found it in the returns for total annual earnings in 1833 (Col. 6), which appear to include exactly the items which Young included. Neither, so far as I can find, make any allowance for ownership of ground or free cottages, or special marketing facilities. To obtain index numbers for Col. 1, therefore, numbers identical with those of Col. 5 were inserted in Col. 6, and proportionate numbers were taken for Col. 1. Following Caird exactly, the number for 1770 would have been 54, instead of 53, an insignificant difference.

It is clear that in the table given it is not safe to compare the money wages in any one column with those in any other without due attention to the foregoing remarks.

No mention has yet been made of another great difficulty in this comparison, which I must deal with at some length now, because similar problems will arise in the consideration of wages in other trades. The wages given in different lists are not always for the same series of counties. To find the rate of increase between two years it is therefore necessary to pick out those counties which occur in both lists, and compare those only. This is a very complex and tedious process, and another has been adopted, which while giving almost exactly the same results, saves labour and throws more light on the general course of wages. All methods of interpolation are unsatisfactory in so far that no certainty can be obtained that the interpolated figures, for which there is no record, represent any reality, and within limits all natural methods of interpolation are equally safe or unsafe. The method I have adopted cannot possibly vitiate any of the comparisons which would arise from the figures actually reported.

The following example shows the method: we have to compare Cols. 16 and 17 to interpolate the needful figures in Col. 17, in each *geographical division*, compare the averages of the counties which occur in both, assume that the rate of change was the same in the county for which the record is missing, and interpolate a number accordingly. All interpolated figures are given in small type (thus Devon 7*s.* 5*d.*). On this principle Cols. 16 and 17, Cols. 3 and 7, Cols. 13 and 11, Cols. 8 and 7, Cols. 2 and 7, Cols. 1 and 6, Cols. 12 and 15 have been completed by comparison with each other respectively, and Cols. 10 and 14 from Col. 16. In each case the columns are chosen which bear most resemblance to each other. Figures for Wales have been interpolated by assuming the same rate of progress as in England as a whole. The advantage of inserting these figures is that first they tend to give the right "weight" to each group in the general average, secondly, they use all the information to the utmost, whereas in their absence the influence of an exceptionally high wage in a county for one year may be lost in comparison, and thirdly, they indicate the wage which may reasonably be expected to have existed at the time and place for which there is no record; for county rates of increase are much the same in the same geographical divisions.

Finally arises the question of weighting the county averages to obtain district and general averages. I have taken the simple arithmetic average for three reasons: first, the only logical weight, the number of agricultural labourers in the counties is not known except for recent dates; second, the counties are very unsuitable units, and a given average may apply to parts of two adjacent counties rather than to one whole one; third, I have experimented on several of the columns with several systems of weights, and find that all systems, even the most arbitrary, give results practically identical in the general average.

The Course of Wages in separate Counties.

The existing information is sufficient to give a fairly accurate, though incomplete, view of the course of wages in many of the counties. It would be impossible to give chapter and verse for every figure stated, if only because many are estimated by weighing evidence arising from various sources and dates. After the numbers estimated for each county I have called attention to any special difficulties or particular authorities, and I have tried to indicate the reliability of different figures by changes of type. Thus, figures which depend on information similar to that used for the large table, or which, from consistency of evidence from different sources are specially reliable, are printed in ordinary type, thus 65; where evidence appears to relate to only part of a county, or is given many years after the date to which it refers, the resulting figures are printed in small type, thus 87; where the evidence is trustworthy, but refers to a period rather than a special year, as is frequently the case in the inflation after 1870, italic figures are used, thus *123;* where we have only isolated statements, with no corroborative evidence, figures are small and in brackets,

thus (94). Evidence which came under none of these heads was placed in its appropriate class, and I had generally little difficulty in deciding the class of the index numbers I formed. I treated as of special value actual statements of wages paid on single farms for a period of years, especially if they bore a definite relation to the general county records at the date for which they exist; and have throughout proceeded on the method I developed in my former paper (*loc. cit.*), of treating the rates of change, not actual wages. The index numbers obtained should be applied to Col. 17 in the large table to find actual money wages.

The chief authorities used, not elsewhere cited in this paper, are:[58] Brassey, *Papers and Addresses*, and *Lectures*; Clifford, *Agricultural Lock-out of* 1874; Edward Young, *Labour in Europe and America*, for the period 1872-76; Kebbel, *The Agricultural Labourer for* 1888; the *Reports of Commissions on Agriculture of* 1821, *Emigration of* 1826, *Agriculture of* 1833 *and* 1836; *Lords' Committee of* 1837; *Committee on Labourer's Diet*, 1837; *Commissions on Women and Children of* 1843 *and* 1867; *Agricultural Customs*, 1847-48; *Trade Depression of* 1886; and the *Royal Commission of* 1896. The last named, taken together with the Labour Department's *Annual Reports on Changes of Wages and Hours of Labour*, make it possible to continue Mr. Little's estimates in the Labour Commission up to date; and it will be interesting to see whether the results obtained will be confirmed by the general report on agricultural wages which, I understand, the Department have in preparation. It will, I believe, make possible the addition of a column for 1897 to the large table.

The following estimates, county by county, are very incomplete at present. It is to be hoped that more information will be obtained, especially for the period 1880-92.

MIDDLESEX.

Years	1795	'96	1824	'33	'37	'79	'95	'96
Index numbers	52	63	75	86	90	103	100	102

Information is very scanty and liable to inaccuracy from the neighbourhood of London.

SURREY.

Years	1767	'87	'93	'95	'97	1818–19	'20	'21
Index numbers	59	(56)	63	70	76	89	85	76

Years	1822	'24	'25–29	'30	'31–32	'33	'35–36	'37
Index numbers	70	71	76	73	76	82	76	70

Years	1838	'39–43	'44	'45	'46–47	'48–52	'53–54	'55–57
Index numbers	76	82	76	70	76	63	76	82

Years	1858–59	'60–66	'68	'70	'72	'80	'86	'92–9[illegible]
Index numbers	76	82	90	90	(94)	103	(88)	100

[58] See also, "Bibliography of Wage Statistics," *Economic Review*, Oct., 189[illegible]

Wages paid at a farm from 1818 to 1866 (*Women and Children*, 1867) serve to connect the general averages in a very satisfactory way.

KENT.

Years	1778	'84–93	'94	'95	'96	1812	'14	'15
Index numbers	54	62	69	72	82	119	115	120

Years	1821	'24	'32	'33	'36–37	'60–61	'68	'70	'72
Index numbers	106	81	95	91	83	93	93	96	105

Years	1875	'76	'80–81	'86	'88	'92–93	'94	'95–96
Index numbers	110	118	109	100	100	100	99	98

Data are fairly complete and consistent.

SUSSEX.

Years	1767	'93	'94–95	'96–1800	'01–03	'04	'05–21
Index numbers	70	86	86	100	112	100	108

Years	1822	'24	'26	'33	'37	'48	'50	'60	'68
Index numbers	72	81	81	104	89	(75)	88	98	110

Years	1870	'72	'80	'82	'86	'88	'92–95	'96
Index numbers	100	111	112	112	*90*	*88*	100	98

Data are fairly complete and consistent. Wages on a farm from 1788 to 1820 were given to the *Committee on Depressed Agriculture*, 1821; the rise in 1796 is not quite the same as that given by Young and Eden, but the numbers agree otherwise with other information.

HANTS.

Years	1767	'94	'95	1824	'33	'37	'50	'60
Index numbers	65	(65)	(87)	74	90	80	78	97

Years	1861	'68	'70	'71	'72–78	'80	'88	'92–96
Index numbers	91	96	96	92	*110—120*	104	87	100

There is considerable difficulty in harmonising the connecting figures at 1860 and at 1794-95 and 1872-78. Information about 1833 is satisfactory, but other figures prior to 1870 may be 5 in error

BERKS.

Years	1767	'94	'95	1824	'33	'50	'60–61	'68	'70
Index numbers	61	73	82	79	94	68	95	100	91

Years	1875	'80	'83	'88	'91	'92	'93	'94	'95	'96
Index numbers	120	110	106	102	98	100	99	98	99	100

Information is rather scanty, but consistent in the main.

OXFORD.

Years	1767	'95–96	1808	'24	'33	'37–38	'50	'59–66	'68
Index numbers	56	70	90	67	85	72	75	98	98

Years	1871	'73–78	'76	'80	'86	'88	'92–93	'94	'95	'96
Index numbers	106	114 Av.	106	106	(90)	98	100	99	97	98

A sequence of figures, 1859-80, given to the Richmond Commission, connect the general returns.

HERTS

Years	1767	'89	'95	'96	1801	'04	'24	'33	'37
Index numbers	62	64	69	72	87	91	78	98	82

Years	1850	'60–61	'68	'70	'80	'92–93	'94–96
Index numbers	78	86	96	103	117	100	98

The following, which do not easily fit in with the numbers otherwise obtained, were given to the Labour Commission: Buntingford, 1870, 9*s.*; 1874, 10*s.*; 1880, 10*s.*; 1890, 11*s.*

BUCKS.

Years	1767	'93	'95	'96	1824	'33	'36	'37	'50	'66
Index numbers	66	58	66	79	69	85	81	79	69	(79)

Years	1868	'73	'75	'80	'81	'86	'92–93	'94	'95–97
Index numbers	100	77	108	106	100	92	100	99	100

Data come from various sources, but are consistent.

NORTHAMPTON.

Years	1767	'92–93	'95–96	1824	'33	'37	'50	'60	'68
Index numbers	46	50	50	57	75	64	64	82	89

Years	1870	'71	'72	'78	'80	'84	'86	'88	'92–93	'94–95	'96
Index numbers	82	100	111	106	96	(89)	(80)	93	100	99	100

HUNTS.

Years	1767	'92–93	'94	'95	'96	1813	'16	'21	'24	'33	'36
Index numbers	55	58	62	66	70	113	90	90	58	90	68

Years	1837	'50	'60	'67	'70	'72	'80	'91	'92	'93	'94–95
Index numbers	74	66	84	81	84	100	96	92	100	92	90

The exact fall since 1892 is doubtful. A witness before the 1895 Commission states a fall of 30 per cent. since 1884.

BEDFORD.

Years	1767	'95	1824	'32	'33	'34	'35	'36	'37	'38	'44	'50
Index numbers	56	60	68	82	85	76	72	77	76	76	76	72

Years	1853	'60	'61	'68	'70	'72	'76	'80–81	'86	'92	'94
Index numbers	(64)	85	92	92	96	104	108	100	(90)	100	100

CAMBRIDGE.

Years	1824	'33	'37	'50	'51	'54–56	'57	'58	'59	'60–61
Index numbers	75	88	80	75	67	108	100	83	87	92

Years	1862	'63–64	'65	'66	'67–68	'69	'70	'71	'74	'75
Index numbers	96	90	96	100	112	108	96	100	108	112

Years	1876	'77	'78	'79–80	'81–82	'83	'84	'85–92	'93–95
Index numbers	121	117	121	110	100	104	108	100	96

The connecting numbers from 1850 to 1894 are from records kindly sent me by Mr. Little (*vide Journal*, 1895, p. 254), and harmonise satisfactorily with the general returns.

ESSEX.

Years	1767	'90	'93	'95	1804	'06	'24	'32	'33	'36
Index numbers	69	72	70	77	100	133	86	100	95	91

Years	1837	'40	'50	'52	'60	'65	'66	'68	'70
Index numbers	95	(78)	70	(61)	104	82	91	100	96

Years	1872	'75	'76	'80	'92	'93	'94	'95	'96
Index numbers	(110)	125	*114*	109	100	96	94	93	94

The figure for 1852 depends on a single statement in the 1895 Commission. There was a considerable rise in the seventies, but the extent and the date of the maximum are doubtful.

SUFFOLK.

Years	1767	'73–84	'90	'92	'94	'95	'96	1804	'24	'32	'33	'36
Index numbers	56	68	60	73	75	87	100	74	69	80	78	82

Years	1837–38	'44	'47	'48	'49	'50–52	'53	'54	'55–56	'57	'58–60
Index numbers	86	78	88	73	66	68	72	104	100	88	86

Years	1861–62	'63–66	'67	'68	'69–70	'71	'72	'73	'74	'75–76
Index numbers	88	80	88	100	90	94	99	112	120	112

Years	1879	'80	'81	'82	'83–87	'88	'89–91	'92	'93	'94	'95–96
Index numbers	114	104	100	89	84	89	92	100	92	88	83

The figure for 1767 has been lowered considerably by comparing Young's statement with annual earnings in 1833. Three long series of wages connect the general records, but do not show precisely the same changes. The numbers chosen are, however, in fairly close agreement with all the data. Perhaps the numbers near 1870 should be higher.

NORFOLK.

Years	1767	'90	'93	'94	'95–96	1804	'13–21	'23	'24
Index numbers	64	64	68	72	76	90	*100*	(69)	77

Years	1826	'33	'37	'38	'50	'52	'53–54	'55	'56	'57
Index numbers	78	90	86	(80)	71	64	88	92	88	83

Years	1858	'59	'60–61	'62	'63	'64	'65	'66	'67	'68
Index numbers	75	83	88	87	83	81	83	87	100	104

NORFOLK—*Contd.*

Years	1869	'70–71	'72	'73	'74	'75–76	'77	'78	'79–81
Index numbers	87	93	105	114	118	110	115	110	104

Years	1882–83	'84	'85	'86–88	'89	'90	'91–92	'93	'94	'95	'96
Index numbers	100	96	92	88	85	96	100	96	95	92	91

The figures in Young's *Annals of Agriculture* for 1790 and 1804 are compared by his method with 1767 and with earnings in 1833. Consecutive wages from 1852-91 were given to the Labour Commission, and generally agree completely with other information; but since they are not necessarily typical of the county, are printed in small type in years for which they are the only sources of information.

WILTS.

Years	1767	'95	1804	'12	'13–20	'21–22	23	24	33	37
Index numbers	70	84	90	(105)	117	85	80	75	93	80

Years	1838–39	'43	'50	'51	'53	'60–61	'65	'68	'70–72
Index numbers	90	90	73	(90)	80	95	90	100	100

Years	1875–76	'79	'80	'81	'83	'88	'92	'93	'94–95	'96
Index numbers	120	120	117	110	116	100	100	99	101	100

Data come from various sources, but are consistent on the whole.

DORSET.

Years	1767	'95	1824	'31	'33	'37	'50	'59
Index numbers	65	80	69	70	87	75	75	(75)

Years	1860–61	'68	'70	'72	'75	'80	'84	'92–96
Index numbers	95	90	100	110	120	107	100	100

Wages vary greatly from part to part of this county, and consequently the figures given here are rather more liable to error than in the other lists.

DEVON.

Years	1795	'96	1824	'31	'33	'37	'38	'43	'50	'59	'60–61
Index numbers	52	50	56	52	67	58	(52)	(63)	63	(60)	66

Years	1862	'66	'67–68	'70	'72	'75	'80–83	'84	'86	'92–96
Index numbers	(72)	(66)	70	74	81	89	96	94	89	100

CORNWALL.

Years	1795	1824	'33	'60–61	'68	'70	'72	'80–83	'84	'92–96
Index numbers	60	58	64	73	78	78	93	98	96	100

SOMERSET.

Years	1794	'95	'99	1824	'33	'37	'47	'60–61
Index numbers	(54)	66	(63)	74	80	79	(76)	80

Years	1868	'70	'72	'75	'80–83	'84	'88	'92–96
Index numbers	86	96	115	(90)	113	110	122	100

Mr. Kebbel gives 14*s.* as wages in 1888; Mr. Little 11*s.* in 1892. The abnormal figure in 1875 is from Edward Young. Free cider, sometimes to the value of 2*s.* a week, appears to be common, but not universal, and the figures are consequently difficult to tabulate.

GLOUCESTER.

Years	1770	'95	'96	1824	'33	'37–38	'50	'60–61	'65	'66–68
Index numbers	69	67	71	89	94	86	67	93	95	105

Years	1870	'71	'72	'75–76	'80	'81	'86	'88	'92–93	'94–96
Index numbers	105	115	123	120	125	115	105	105	100	98

HEREFORD.

Years	1795	'24	'33	'37	'60–61	'68	'70
Index numbers	73	64	81	82	88	95	90

Years	1872	'75	'80	'88	'92–93	'94–95	'96
Index numbers	114	110	107	83	100	98	99

SALOP.

Years	1795	1824	'33	'37	'60–61	'68	'70	'72	'80–81	'88	'92–96
Index numbers	54	52	69	64	75	72	82	104	96	94	100

The course of wages between 1880 and 1888 is doubtful here and in Stafford.

STAFFORD.

Years	1770	'95	1805–12	'24	'33	'37	'50
Index numbers	40	47	81	67	72	75	59

Years	1860–61	'68	'70	'72	'75	'80–81	'92–96
Index numbers	76	81	81	87	114	91	100

WORCESTER.

Years	1795	1811	'15	'20	'24	'33	'37	'38	'60–61
Index numbers	71	(85)	(125)	71	68	85	79	83	83

Years	1868	'70	'72	'76	'80	'84	'88	'92–93	'94–95	'96
Index numbers	92	92	101	130	108	100	100	100	102	100

WARWICK.

Years	1770	'95	1815	'24	'33	'36	'37	'50	'60	'68	'70
Index numbers	70	66	130	78	96	90	87	74	96	104	108

Years	1872	'74–75	'76	'77	'80–81	'86	'92	'93	'94–96
Index numbers	118	128	130	132	124	107	100	96	94

LEICESTER.

Years	1792	'94–95	'96	1824	'33	'37	'46	'50	'60–61	'68
Index numbers	63	74	(67)	63	80	64	(74)	63	84	80

Years	1870	'72	'75	'80–81	'86	'88	'92–93	'94–95	'96–97
Index numbers	80	101	100	86	(80)	(115)	100	101	100

Figures as a whole are inconclusive.

RUTLAND.

Years	1793	1833	1861	1870	1872
Index numbers	69	96	90	94	124

1861 = 90 taken as base number.

LINCOLN.

Years	1770	'92–94	'95	'96	'99	1813	'24	'33
Index numbers	55	(71)	71	76	81	81	70	98

LINCOLN—*Contd.*

Years	1836–38	'42	'43	'47–51	'60–61	'68	'70
Index numbers	82	82	75	68	91	97	94

Years	1873	'75–79	'80	'84	'86	'88	'90	'92–96
Index numbers	110	120	97	88	80	86	92	100

Young gives 7*s.* for 1770. The 1833 Report gives summer 15*s.* 4*d.*, winter 11*s.* 7*d.*, average earnings 12*s.* 5*d.* One account gives an abnormally high wage in 1792.

NOTTS.

Years	1770	'94	1811	'15	'24	'26	'32	'33	'36
Index numbers	61	60	97	100	69	(80)	80	85	(66)

Years	1837	'50	'60–61	'68	'70	'80–81	'86	'91–96
Index numbers	80	66	87	107	88	93	(84)	100

The official returns for 1860 and 1870 do not tally with Mr. Little's statement for 1868. Wages vary greatly through the county.

DERBY.

Years	1795	1800	'24	'33	'37	'50
Index numbers	58	72	67	72	75	69

Years	1860	'68	'70	'80	'92–93	'94–96
Index numbers	75	88	88	97	100	99

It is stated in the Women and Children's Commission of 1867 that wages did not alter in Rutland or North Derbyshire between 1826 and 1866.

CHESHIRE.

Years	1795	1815	'24	'26	'33	'37	'50	'60–61
Index numbers	60	88	71	(70)	65	87	80	82

Years	1870	'72	'75	'79	'80	'84	'92–95	'96
Index numbers	90	110	100	89	84	88	100	101

Very little subsidiary information exists, and wages are complicated by payments in kind.

LANCASHIRE.

Years	1770	'93	'95	'96	1810	'22	'24	'26
Index numbers	39	68	68	75	(75)	(90)	67	70

Years	1833	'39	'49	'50	'51	'59	'60–61	'64
Index numbers	66	(72)	72	72	(60)	(72)	76	73

Years	1868	'70	'72	'80	'84	'86	'92–96
Index numbers	84	84	(89)	97	79	79	100

Data are as a whole incomplete and inconclusive.

YORKSHIRE, WEST RIDING.

Years	1770	'95	1813	'20	'24	'33	'37	'50
Index numbers	38	70	109	62	75	78	71	87

Years	1860–61	'68	'70	'72	'80	'92–93	'94–96
Index numbers	80	93	102	102	103	100	98

YORKSHIRE, EAST RIDING.

Years	1770	'95	'97	1824	'33	'37	'50	'68	'80	'92–93	'94–96
Index numbers	51	62	74	76	76	78	78	93	97	100	98

YORKSHIRE, NORTH RIDING.

Years	1770	'95	1820	'24	'33	'37	'50	'60–61	'63–64
Index numbers	51	65	(115)	67	73	78	71	91	100

Years	1870	'72	'73	'80	'81	'86	'92–93	'94–96
Index numbers	99	100	(115)	107	100	100	100	98

There is a great dearth of evidence throughout as to the period 1870-80.

DURHAM.

Years	1770	'93	'95	1824	'33	'37	'50	'54	'55–57
Index numbers	41	50	56	72	74	75	69	82	89

Years	1858–59	'60–61	'62–64	'65	'66–71	'72	'73
Index numbers	86	89	89	95	100	110	120

Years	1874	'75–78	'80	'86	'92–93	'94–95	'96
Index numbers	127	120	100	95	100	101	100

A sequence of wages, 1854-79, at Darlington given to the Richmond Commission connects the general returns.

NORTHUMBERLAND.

Years	1770	'96	1824	'31	'33	'35	'36	'37
Index numbers	36	62	67	61	66	58	(61)	70

Years	1840	'50	'55	'60–61	'65	'68	'70	'71
Index numbers	66	64	77	89	83	97	89	94

Years	1872	'75	'78	'79–80	'81–91	'92–94	'95–96
Index numbers	98	133	120	100	100	100	101

A sequence of wages for data from 1831-80 is given by Levi (*Wages and Earnings, 2nd edition*); they were presumably taken from the Richmond Commission, whence the following averages are obtained: 1831-40, 61; 1841-50, 69; 1851-60, 77; 1861-70, 88; 1871-80, 113; 1874-77, 118; 1880, 100. These figures place the index numbers on a firm basis. A great rise with a change to payment in money is said to have taken place in the early seventies.

CUMBERLAND.

Years	1770	'85–88	'89	'90	'91	'92	'93	'94–95	'96	'97
Index numbers	40	40	41	42	43	44	45	46	48	52

Years	1798	'99	1800	'01	'02	'03	'04	'05	'06–10	'11	'12
Index numbers	58	61	64	67	68	70	78	84	90	88	87

Years	1813	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24
Index numbers	84	82	79	72	71	69	67	65	63	61	58	60

Years	1833	'37	'50	'60–61	'68	'70	'72	'80	'86	'92–96
Index numbers	59	67	72	75	100	82	113	100	(100)	100

Rooke (*National Wealth*) gives annual cost of farm labour (money and board) in Cumberland annually from an early date till 1824. His figures do not appear to be original or continuous, but an estimate from good information. They agree with Young and Eden and nearly with other information to their maximum period, but in 1824 are considerably under the general estimate, giving 9*s.* 6*d.* against 12*s.* 2*d.* The figures from 1811-24 are inserted on the hypothesis that general wages fell at the same dates, but at a slower rate, than those to which Rooke refers. The explanation may be that the 1824 figures refer to summer wages, in which case the index for 1824 should be 47, and numbers from 1811 onwards, reduced correspondingly. Little's figures for 1868 do not agree with the sequence of returns 1860-70-72.

WESTMORELAND.

Years	1795	1824	'33	'37	'60–61	'68	'70
Index numbers	55	67	59	67	83	100	90

Years	1872	'80	'82	'86	'94	'96
Index numbers	(111)	100	(133)	100	100	98

Information is deficient since 1880. Difficulties are introduced by payments in kind.

MONMOUTH.

Years	1787	'95	1824	'34	'37	'56	'60
Index numbers	40	72	80	84	84	(133)	91

Years	1868	'70	'72	'75	'80	'92–95	'96
Index numbers	96	104	149	108	96	100	98

Wages vary through the county, and appear to be influenced by colliers' wages.

SOUTH WALES.

Years	1789	1812	'21	'24	'33	'37	'60–61
Index numbers	46	100	63	56	62	50	80

Years	1868	'70	'72	'92–93	'94	'95–96
Index numbers	84	85	116	100	101	102

Information is scanty, but consistent.

(*To be continued.*)

IV.—*Longevity in the Indian Civil Service.*

By A. COTTERELL TUPP, I.C.S

THE longevity of some members of the Indian Civil Service was remarked on in the *Times* recently in the account of the celebration of a function at Haileybury, and it is noticed in Sir W. W. Hunter's "Life of Brian Hodgson," but I do not recollect ever having seen any definite statistics with regard to it; and I therefore give the following results derived from the Annuitants' list in the *India Office List*, 1897.

The number of persons in the Indian Civil Service varies from about 900 to 1,100, as shown below; but the average, at any rate since the Mutiny (1857), may be taken at 1,000.

In this year's list of annuitants there are 602 persons, who represent all the retired survivors of the years from 1820 to 1896, or 77 years;

Bengal	381
Madras	117
Bombay	104
	602

but for my present purposes I can only include those of the years previous to 1862, as Indian civilians who entered the service since that date have not completed their full term of 35 years' service, and there are therefore many survivors still in the service and not included in the Annuitants' list.

But from 1820 to 1862 all the still surviving civilians are included in the list of annuitants, and these are as follows:—

Bengal	283
Madras	74
Bombay	72
	429

All these must be over 55 years of age, but I propose in this paper to deal only with those who are 75 or more. There are in all fifty-one over 75 years of age. Of these fifty-one there are twenty-eight over 80, twenty over 85, ten over 90, and two over 95. These are distributed over the different ages with great regularity, so much so that there are survivors of every age except 79, 92, and 94. All the other years are represented by from one to four survivors, except the age of 75, which has thirteen. They are thus distributed:—

Number.	Age.	Who Went to India in	Number.	Age.	Who Went to India in
2	of 95	1820	2	of 83	1834
2	„ 93	'24	1	„ 82	'35
2	„ 91	'26	2	„ 81	'36
4	„ 90	'27	1	„ 80	'37
1	„ 89	'28	4	„ 78	'39
2	„ 88	'29	3	„ 77	'40
2	„ 87	'30	3	„ 76	'41
3	„ 86	'31	13	„ 75	'42
2	„ 85	'32			
2	„ 84	'33	51	Total, 1820–42	

I give below a table in which all these fifty-one are given, arranged according to age, with their (1) initials, (2) age in 1897, (3) the number of years they served in India, (4), the number of years since they retired, (5) the number of years since they entered the service, and (6) the year from which and up to which they served.

It will be seen that two civilians are over 95; two others are over 93; two more are over 91, and no less than four more are over 90. All these ten nonagenarians belong to the Bengal Presidency, except one who is from Madras; but it must of course be remembered that the Bengal civilians vastly outnumber those from Madras and Bombay. Out of the fifty-one who are over 75, only nine are from Bombay, and eight from Madras, while there are thirty-four from Bengal, *i.e.*, all India, excluding Bombay and Madras.

	Age in 1897.	Served. Years.	Years since Retired.	Years since Entered.	Served	
					From	To
Over 95.						
L.H.	95	32	45	77	1820	1852
P.K.R.	95	31	46	77	'20	'51
Over 93.						
R.A.	93	29	44	73	1824	1853
W.P.T.	93	28	45	73	'24	'52
Over 91.						
H.J.F.	91	35	28	73	1824	1859
P.C J.T.	91	34	37	71	'26	'60
Over 90.						
B.P.F.	90	32	38	70	1827	1859
G.S.M.	90	30	40	70	'27	'57
P.E.H.N.	90	28	42	70	'27	'55
B.R.C.	90	32	38	70	'27	'59
Over 87.						
S.A.	89	33	36	69	1828	1861
M.P.H.	88	26	42	68	'29	'55
R.J.	88	37	31	68	'29	'66
S.H.R.	87	30	37	67	'30	'60
T.B.C.	87	37	30	67	'30	'67
Over 85.						
C.H.F.	86	31	35	66	1831	1862
W.N.S.	86	32	34	66	'31	'63
J.W.A.	86	30	36	66	'31	'61
C.C.	85	29	36	65	'32	'61
C.K.A.	85	30	35	65	'32	'62
Over 80						
A.G.H.	84	29	35	64	1833	1862
C.B.	84	30	34	64	'33	'63
H.W.	83	31	32	63	'34	'65
M.R.J.	83	32	31	63	'34	'66
G.B.F.	82	28	34	62	'35	'63
F.H.D.H.	81	27	34	61	'36	'63
M.G.G.	81	24	37	61	'36	'60
R.A.	80	34	26	60	'37	'71
Over 76.						
B.H.W.	78	26	32	58	1839	1865
F.C.G.	78	26	32	58	'39	'65
C.G.R.	78	32	26	58	'39	'71
I.G.	78	26	32	58	'39	'65
T.N.G.	77	30	27	57	'40	'70
S.N.R.	77	25	32	57	'40	'65
T.B.M.	77	32	25	57	'40	'72

	Age in 1897.	Served. Years.	Years since Retired.	Years since Entered.	Served	
					From	To
Over 76—Contd.						
B.G.G.	76	26	30	56	1841	1867
F.W.	76	27	28	55	'42	'69
R.D.A.	76	27	29	56	'41	'68
Over 75.						
L.H.E.	75	30	26	56	1841	1871
T.B.H.L.	75	24	31	55	'42	'66
W.B.A.	75	29	26	55	'42	'71
W.J.M.	75	30	25	55	'42	'72
G.P.	75	26	29	55	'42	'68
P.S.E.	75	30	25	55	'42	'72
K.S.S.W.	75	28	27	55	'42	'70
T.G.S.	75	27	28	55	'42	'69
C.N.R.	75	26	29	55	'42	'68
B.M.W.	75	29	26	55	'42	'71
B.J.W.	75	30	25	55	'42	'72
B.L.E.J.	75	28	27	55	'42	'70
C.J.	75	26	29	55	'42	'68

V.—*Agricultural Returns of Great Britain for* 1898.

Produce of Wheat, Barley, and Oats Preliminary Statement showing the Estimated Total Produce and Yield per Acre of Wheat, Barley, and Oats in Great Britain in the Year 1898, *with Comparative Statements for the Year* 1897, *and for the Average of the Ten Years* 1888-97.

WHEAT.

	Estimated Total Produce.		Acreage.		Estimated Yield per Acre.		Average of the Ten Years 1888-97.
	1898.	1897.	1898.	1897.	1898.	1897.	
	Bshls.	Bshls.	Acres.	Acres.	Bshls.	Bshls.	Bshls.
England	69,074,387	51,724,955	1,987,385	1,785,562	34·76	28·97	29·19
Wales	1,582,086	1,332,192	58,960	53,810	26·83	24·76	23·49
Scotland	2,372,383	1,883,388	55,861	49,789	42·47	37·83	35·80
Great Britain.	73,028,856	54,940,535	2,102,206	1,889,161	34·74	29·08	29·19
			BARLEY.				
England	55,377,522	55,158,713	1,562,761	1,698,323	35·44	32·48	32·93
Wales	3,377,413	3,116,438	102,921	104,371	32·82	29·86	29·22
Scotland	9,296,983	8,538,915	237,984	233,096	39·07	36·63	35·77
Great Britain.	68,051,918	66,814,066	1,903,666	2,035,790	35·75	32·82	32·97
			OATS.				
England	75,282,761	73,638,993	1,731,157	1,829,072	43·49	40·26	40·50
Wales	8,389,938	7,765,962	230,670	238,510	36·37	32·56	32·42
Scotland	35,248,218	35,442,224	955,933	968,474	36·87	36·60	36·50
Great Britain.	118,920,917	116,847,179	2,917,760	3,036,056	40·76	38·49	38·51

Agricultural Returns of Great Britain for 1898. *Acreage under Crops and Grass; Years* 1898 *and* 1897, *in each Division of Great Britain; with*

	England.		Wales.		Scotland.	
	1898.	1897.	1898.	1897	1898.	1897.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Total area of land and water[a]	32,541,836	32,541,836	4,773,899	4,773,899	19,455,788	19,455,788
Total acreage under crops and grass[b]	24,757,490	24,793,980	2,826,774	2,833,190	4,892,767	4,892,906
Corn Crops—						
Wheat	1,987,385	1,785,562	58,960	53,810	55,875	49,789
Barley or bere	1,562,761	1,698,323	102,921	104,371	237,970	233,096
Oats	1,731,157	1,829,072	230,670	238,510	955,933	968,474
Rye	59,843	66,854	2,043	2,383	6,909	7,249
Beans	217,310	213,539	1,285	1,460	13,412	13,913
Peas	173,007	187,482	1,569	1,723	1,325	1,501
Total	5,731,463	5,780,782	397,448	402,257	1,271,424	1,274,022
Green Crops—						
Potatoes	365,432	352,365	32,797	32,609	126,362	119,940
Turnips and swedes	1,237,011	1,287,664	68,176	70,349	467,279	475,132
Mangold	342,962	345,372	7,854	7,842	1,455	1,374
Cabbage, kohl-rabi, and rape	150,254	151,143	3,119	3,166	12,351	12,352
Vetches or tares	181,846	186,604	1,917	2,271	9,849	10,549
Other green crops	121,349	127,335	1,161	1,132	2,347	2,309
Total	2,398,854	2,450,483	115,024	117,369	619,643	621,656
Clover, sainfoin, and grasses under rotation—						
For hay	1,779,341	1,692,612	199,959	196,251	402,251	397,102
Not for hay	1,143,357	1,193,251	180,599	177,787	1,205,682	1,196,805
Total	2,922,698	2,885,863	380,558	374,038	1,607,933	1,593,907
Permanent pasture or grass not broken up in rotation—[b]						
For hay	3,932,330	3,901,563	474,492	473,725	129,603	135,045
Not for hay	9,322,129	9,290,226	1,449,337	1,456,607	1,251,611	1,255,702
Total	13,254,459	13,191,789	1,923,829	1,930,332	1,381,214	1,390,747
Flax	895	1,411	4	5	3	3
Hops	49,735	50,863	—	—	—	—
Small fruit	63,438	63,535	1,044	1,043	5,271	5,214
Bare fallow	335,948	369,254	8,867	8,146	7,279	7,357
	No.	No.	No.	No.	No.	No.
Horses used solely for agriculture[c]	830,316	824,123	89,522	88,168	155,470	155,959
Unbroken horses—						
1 year and above	242,276	246,639	41,850	43,794	34,761	35,752
Under 1 year	91,033	98,001	20,582	21,320	11,350	12,668
Total of horses	1,163,625	1,168,763	151,954	153,282	201,581	204,379
Cows and heifers in milk or in calf	1,872,774	1,823,020	274,073	272,627	440,343	436,732
Other cattle—						
2 years and above	1,021,423	974,306	91,352	94,764	268,820	254,160
1 year and under 2	802,066	904,858	159,865	169,990	293,913	285,893
Under 1 year	888,040	865,650	176,487	171,739	243,208	246,758
Total of cattle	4,674,303	4,567,834	701,777	709,120	1,246,284	1,223,543
Ewes kept for breeding	5,878,162	5,849,201	1,272,959	1,241,084	2,986,811	2,916,412
Other sheep—						
1 year and above	3,608,672	3,533,823	827,675	861,611	1,767,511	1,823,567
Under 1 year	6,399,704	6,338,189	1,168,074	1,092,664	2,833,626	2,683,889
Total of sheep	15,886,538	15,721,213	3,268,708	3,195,359	7,587,948	7,423,868
Sows kept for breeding	305,756	281,504	39,177	35,679	17,267	17,061
Other pigs	1,773,142	1,709,030	199,404	180,768	116,849	118,260
Total of pigs	2,078,898	1,990,534	238,581	216,447	134,116	135,321

[a] Not including foreshore and tidal water.

[b] Not including mountain and heath land.

[c] Furnished by the Registrar-General for Ireland.

and Number of Horses, Cattle, Sheep, and Pigs; as returned upon the 4th June, in the Particulars for Ireland, and Total for the United Kingdom.

Great Britain.		Ireland.		United Kingdom, including Isle of Man and Channel Islands.		
1898.	1897.	1898.	1897.	1898.	1897.	
Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	
56,771,523	56,771,523	20,706,258	20,706,258	77,671,114	77,671,114	Total area of land and water[a]
32,477,031	32,520,076	15,191,152[c]	15,224,751[c]	47,792,474	47,868,553	Total acreage under crops and grass[b]
2,102,220	1,889,161	52,862	46,880	2,158,479	1,938,956	Corn Crops— Wheat
1,903,652	2,035,790	158,151	170,634	2,068,746	2,213,529	Barley or bere
2,917,760	3,036,056	1,165,295	1,175,467	4,097,791	4,226,231	Oats
68,795	76,486	12,384	13,047	81,285	89,621	Rye
232,007	228,912	1,712	1,377	233,870	230,429	Beans
175,901	190,656	537	440	176,585	191,326	Peas
7,400,335	7,457,061	1,390,941	1,407,845	8,816,756	8,890,092	Total
524,591	504,914	664,912	677,765	1,201,417	1,194,194	Green Crops— Potatoes
1,772,466	1,833,145	306,936	308,942	2,087,469	2,150,289	Turnips and swedes
352,271	354,588	55,911[d]	54,246[d]	408,848	409,501	Mangold
165,724	166,661	49,086[e]	46,217[e]	214,970	213,043	Cabbage, kohl-rabi, and rape
193,612	199,424	3,465	4,212	197,420	203,955	Vetches or tares
124,857	130,776	24,686	24,027	151,368	156,586	Other green crops
3,133,521	3,189,508	1,105,026	1,115,409	4,261,492	4,327,568	Total
2,381,551	2,285,965	651,967	637,206	3,047,585	2,937,607	Clover, sainfoin, and grasses under rotation— For hay
2,529,638	2,567,843	600,922	614,284	3,163,266	3,215,191	Not for hay
4,911,189	4,853,808	1,252,889	1,251,490	6,210,851	6,152,798	Total
4,536,425	4,510,333	1,522,326	1,539,308	6,065,409	6,055,699	Permanent pasture or grass not broken up in rotation[b] For hay
12,023,077	12,002,535	9,868,624	9,844,971	21,913,400	21,869,011	Not for hay
16,559,502	16,512,868	11,390,950	11,384,279	27,978,809	27,924,710	Total
902	1,419	34,489	45,576	35,391	46,995	Flax
49,735	50,863	—	—	49,735	50,863	Hops
69,753	69,792	—[f]	—[f]	70,238[f]	70,245[f]	Small fruit
352,094	384,757	16,857	20,152	369,202	405,282	Bare fallow
No.	No.	No.	No.	No.	No.	
1,075,308	1,068,250	—[f]	—[f]	—[f]	—[f]	Horses used solely for agriculture
318,887	326,185	—[f]	—[f]	—[f]	—[f]	Unbroken horses— 1 year and above
122,965	131,989	—[f]	—[f]	—[f]	—[f]	Under 1 year
1,517,160	1,526,424	513,788	534,133	2,040,330	2,069,852	Total of horses
2,587,190	2,532,379	1,430,722	1,434,476	4,035,501	3,984,167	Cows and heifers in milk or in calf
1,381,595	1,323,230	1,027,543	1,013,096	2,414,205	2,340,906	Other cattle— 2 years and above
1,345,844	1,360,741	982,241	964,891	2,337,184	2,334,691	1 year and under 2
1,307,735	1,284,147	1,045,736	1,051,472	2,362,322	2,344,270	Under 1 year
6,622,364	6,500,497	4,486,242	4,463,935	11,149,212	11,004,034	Total of cattle
10,137,932	10,006,697	2,517,892	2,466,353	18,897,390	18,729,041	Ewes kept for breeding
6,203,858	6,219,001					Other sheep— 1 year and above
10,401,404	10,114,742	1,769,382	1,691,228	12,204,969	11,838,020	Under 1 year
26,743,194	26,340,440	4,287,274	4,157,581	31,102,359	30,567,061	Total of sheep
362,200	334,244	—[f]	—[f]	—[f]	—[f]	Sows kept for breeding
2,089,395	2,008,058	—[f]	—[f]	—[f]	—[f]	Other pigs
2,451,595	2,342,302	1,253,682	1,327,226	3,719,219	3,682,819	Total of pigs

[d] Including beetroot.
[e] Cabbage and rape only.
[f] Not separately shown for Ireland.
[g] Including mares kept for breeding.

VI.—*Notes on Economical and Statistical Works.*

Annuaire de la Législation du Travail. Première année, 1897. 390 pp., 8vo. 1·50 frs. Bruxelles, 1898.

The new enterprise of the Belgian *Office du Travail* promises to be an extremely useful one. The annual volume of which this is the first number is to contain copies of laws and administrative orders relating to the organisation of labour, to apprenticeship regulations, to measures touching the health of work people and their security from danger, to factory inspection, &c., &c.; in fact, all legislation on labour properly so called. The text of such laws and ordinances will be accompanied by an account of official inquiries which may have preceded it. This first volume well illustrates the range and usefulness of the publication, though, as the compiler notes, it has not been possible to attain exhaustiveness. Laws and administrative orders of Germany, Austria, Belgium, France, Great Britain, Norway, Holland, Roumania, Russia, Switzerland, and the United States of America are included.

The section dealing with British legislation will illustrate the scope and plan of the work. The laws whose text is given are three, the Workmen's Compensation Act, the Cotton Factories Act, and the Chaff-cutting Machines (Accidents) Act. In the first two cases the text of the Act is preceded by an account of the need, purpose, and preceding discussion; the state of the law previous to the Act, and some points raised in the parliamentary debates in the case of the first, being also included. Ten statutory orders are also given, and three sets of special rules relating to dangerous trades, the last being preceded by a statement in regard to the powers under which they are issued.

The value of such a publication as this as a work of reference must be great, and the greater the more complete it can be made. The Belgian Labour Department is to be congratulated on its enterprise, and should undoubtedly receive the assistance to render the work complete which is requested in the preface. A careful alphabetical index is a feature of the volume, which should not be overlooked.

Foreign Trade Competition. Opinions of H.M. Diplomatic and Consular Officers on British Trade Methods, 1898. [C-9078.] Price 10½*d.*

Traders and others in this country are well aware that our consuls have on many occasions included in their reports some remarks critical of the methods adopted by merchants and manufacturers here in reference to their foreign trade. Since the beginning of 1896, *i.e.*, in two years and nine months preceding the issue of the report, no less than 116 officers in 171 reports have made use of statements which have now been gathered together and reprinted. The chief causes assigned in these reports for the decrease, or for lack of progress, of British trade are classified and separately dealt with in an introductory memorandum. They are as follow:—The disinclination of British

traders to supply cheap goods, or, if they do, to give finish to their cheap goods; to give attention to small orders, or to customers' wishes; to adopt the metric system, or to grant credit facilities; the scarcity of British commercial travellers; the inferiority of methods of packing; high freights; frequent strikes, and backwardness in technical education.

Mr. Bateman justly remarks that in regard to several of these complaints the mere fact that British trade is established while rivals are seeking to get a footing, makes the latter willing to take risks and trouble which they themselves would not take if they were firmly established. He adds however a remark, that there are always British traders seeking to push their way into what are to them new markets, so that the reason given does not sufficiently account for the complaints.

British traders have sometimes met the consular complaints by charging the consuls with not knowing how the trade of this country is really carried on, and, for instance, imagining that if they do not receive many calls from British travellers, British trade interests must be neglected, while in reality a competent organisation for carrying on the trade exists. They laugh at the suggestion that they perversely refuse to attend to customers' wishes. Yet, even if we could suppose the consuls' statements on this point ill-founded, other similar evidence is forthcoming, as, for instance, in the recent reports of Mr. Worthington, who was sent as special commissioner to South America. It may be hoped that in the collected form the reports may receive more attention than was given them separately.

Indian Currency. By Henry Dunning Macleod. 55 pp., 8vo. 2*s.* 6*d.* net. London: Longmans, Green, and Co., 1898.

Mr. Macleod's opinions on bimetallism are known sufficiently to render it unnecessary to say anything in regard to the first dozen pages of this pamphlet. The repetition of these is followed by a brief sketch of the history of the currency of India, insisting that in southern India the coinage was of gold till 1818, and that it is erroneous to declare that silver has been from time immemorial India's standard. This point is clearly of great importance in the author's view, since it is repeated more than once, even taking the more extreme form, "for thousands of years, until 1st January, 1853, India possessed an immense gold currency." We hesitate to dogmatise on the "thousands of years."

Mr. Macleod's proposal for the remedy of the present evils is to open the Indian mints for the coinage, not of silver rupees, but of gold sovereigns and half-sovereigns, making rupees a token currency of limited legal tender. He further proposes a paper currency, to be issued, in exchange for gold at 3*l.* 17*s.* 9*d.* per ounce, by the Presidency banks, but to be a first charge on all assets of the bank, instead of being secured by an ear-marked reserve as with us.

No difficulty is anticipated by the author to arise in regard to an abundant supply of gold. He believes that an enormous amount of gold in the shape of coin is hoarded, and would be available

immediately for carrying out such a plan as his, and that gold ornaments in great quantities would also be brought to the mints. He would too, after reasonable delay, require the payment of customs dues in gold.

In addition to objecting to a double "l" in bimetallism, Mr. Macleod appears to have developed a dislike to full-stops; at present they are only lacking at the end of each paragraph, fortunately for readers.

Economic Aspects of the Liquor Problem. Twelfth Annual Report of the Commissioner of Labor, 1897. 275 pp., 8vo. Washington, 1898.

The inquiry into the Economic Aspects of the Liquor Problem in the United States, though a special inquiry, has been carried out without expenditure of special funds, and has therefore not been able to follow precisely the lines which might have been deemed most suitable had such funds been at the disposal of the Commissioner of Labour. The problem is treated under the heads of Production, Consumption, The Liquor Traffic, Revenue from the Liquor Business, and Experience and Practice of Employers relative to the use of Intoxicants.

The comparison between 1880 and 1890 shows the concentration of brewing and distilling in fewer establishments, though the capital has increased. Taking the two together, the decrease in the number of establishments has been accompanied by a doubling of the value of the products, a somewhat greater increase of wages, and again a greater increase of capital employed. The cost of materials in distilling in 1890 was little over one-half its amount in 1880, while in brewing its increase has only been about 12 per cent., leaving, on the two together, a substantial decrease. Different subdivisions of the trade have progressed with so great irregularity, that reference must be made for details to the tables of the report.

In a comparison with 1840 it is shown that the consumption of distilled spirits per head has very largely decreased, that of wine slightly decreased, and that of malt liquors largely increased. In dealing with the traffic in liquor, a canvass was made covering about one-fifth of the establishments, and on its results an estimate for the whole country has been based. For the 161,483 establishments in the United States a capital of close on a million dollars was represented, and near a quarter of a million employees, in addition to proprietors, were wholly or partially employed. This combines the wholesale and retail traffic, for which separate figures are given, but the retail trade accounts for by far the greater part. The total annual revenue derived by federal, State, and municipal governments from liquor manufacture and traffic is worked out to some 37 million pounds sterling.

The numerous details in the section on the experience and practice of employers relative to the use of intoxicants are of considerable interest, though the ground covered is hardly wide enough to permit of very much generalisation. The favourite mode of grappling with mischief arising from the use of intoxicants

is discharge, while the most frequently suggested means of lessening the consumption was prohibition.

The volume, in addition to the careful tables illustrating the report, and on which it is based, contains a synopsis of the liquor laws of the various States.

Suggestions for a Scheme of Old Age Pensions. By Lionel Holland, M.P. London: Edward Arnold, 1898.

The scheme of old age pensions which was advocated by Mr. Holland before the Committee of the House of Commons is explained in detail in this small volume. By way of introduction an article which originally appeared in the *National Review*, criticising the report of the Commons Committee, is reprinted. Those who are earnestly endeavouring to find a workable scheme of old age pensions will, we think, regard with satisfaction the determination of its author to "disinter this scheme from its peaceful tomb in the pages of a blue book."

Mr. Holland proposes to offer pensions to those of the needy aged who have proved their right to special consideration by securing themselves "against the eventualities of illness and death, medical attendance and funeral expenses, and by maintaining independence of parish relief during the more active years of life." The proof of having been secured against the evils enumerated is to be afforded by membership of a friendly society from the age of 25 till the pension age (60 or 65).

The same degree of independence and thrift outside membership of a friendly society should clearly be worthy of equal consideration if the proof of its existence can be satisfactorily obtained. It is worth while asking whether the particular form of thrift practised by the man who joins a friendly society is so much superior to all other forms as to justify special encouragement in this way by the State. If friends of these societies do not ask the question, their detractors will do so.

The amount of pension proposed is 5*s.* per week, and the total cost involved is estimated to amount at first to some 2,795,000*l.* or 1,685,000*l.*, according as the pension age is fixed at 60 or 65. This cost it is proposed to divide between imperial and local taxation, and a not inconsiderable reduction in the burden would be anticipated from the restriction of out-door poor relief, which would be a natural accompaniment of such a measure.

Provident Societies and Industrial Welfare. By E. W. Brabrook, C.B. London: Blackie and Sons, Ltd., 1898.

The editor of the *Victorian Era* series is fortunate in obtaining such an authority as Mr. Brabrook to contribute to the library this account of the development and progress of those thrift organisations which have done so much to ameliorate the conditions of the working classes in this country during the period which comes within its view. The author traces out the origin of the Registry of Friendly Societies from its small and limited beginnings. He naturally, therefore, gives a warm appreciation of the work of Mr. Tidd Pratt, to whose tact and energy the public

owes so much. This gentleman was the first occupant of the position which Mr. Brabrook now holds, and it was owing to the way in which he performed his duties in regard to the certifying the rules of loan societies, under the Acts of 1835 and 1836, that the Registry sprang into being, and attained the power and influence which has enabled it to carry out its now greatly extended work. When it is remembered that the offices of the Registry must be sought by those who deal with it, and that it does not compel submission to its inquiries and regulations, it will be realised that the personal factor is here of supreme importance, if full benefit is to be obtained from the working of the machinery which has been supplied.

Mr. Brabrook in the course of his book traces out the surprising development of friendly societies, both in numbers and in size of individual bodies, which has been one of its remarkable characteristics. We can find, however, no suggestion on his part that there are any indications which lead to the belief that the expansive force of the movement has been in any way checked. The habits of self reliance and of organised thrift which their working has introduced into the thoughts and actions of the industrial classes, must have been of incalculable value to the national character, and we may feel reasonably confident therefore that new classes of poor persons will gradually be drawn into the fellowship of these societies unless some outside interference takes place. Such interference is certainly suggested by those who put forward State aided or State controlled pensions schemes. To those therefore who are interested in that question, we especially recommend this book; for it will enable them to form for themselves some opinion as to how far the probable extension of these societies may eventually supply the public wants. They will find too excellent materials for appreciating the value of the societies' work, and for the consideration of the risk which fresh legislative departures might entail upon them by destroying or limiting their sphere of action.

A good deal of attention is also paid to the other and varied duties of the Registry of Friendly Societies. Amongst these we may note the new responsibilities laid upon the office by the Workmen's Compensation Act. The whole book however may be summed up as a monument of how extraordinarily successful is the truly English fashion of proceeding by piecemeal legislation, adding great additions (some of which appear quite out of harmony with the original design) to a tiny original structure. A clue to the causes of that success is also afforded. It seems to lie to a large extent in the characters of the men who direct these movements, as heads of the working men's own organisations, and to the tact of the officials who are appointed to control them.

System der Nationalökonomie. By Gustav Cohn. *Dritter Band. Nationalökonomie des Handels und des Verkehrswesens.* 1030 pp., 8vo. Stuttgart: Verlag von Ferdinand Enke, 1898.

The third of Professor Cohn's four volumes is truly a formidable book. The mere enumeration of the subjects dealt with would be a lengthy proceeding. One can hardly wonder at the author's

expression in his preface of some feeling of doubt whether a work of this class should properly be undertaken by a single hand. Comprehensive in plan, thorough in treatment, magisterial in method, such undoubtedly is this monumental work. The theme is also great, for it deals with the mechanism of that world-wide commerce which has so greatly increased in extent and complication, and improved in its organisation, in the present century. This world-commerce is determined by and involved with large-scale industry, extended means of communication, and the great money market. In the forefront in all these respects, remarks the Professor, throughout the nineteenth century has been England; but her preponderance seems to have passed its extreme limit.

With a sketch of the development of commerce through its earlier stages, and by means of more primitive institutions, we are led to the consideration of the modern bourse and the concentration of capital in great joint-stock undertakings and gigantic trusts. In dealing with trade, the subject of stock and produce exchanges is treated in some detail. It is pointed out that there is an important difference between the treatment of time-contracts on the exchanges of different places. In the greater number a guarantee is given by the clearing-house for the fulfilment of contracts. Such is the case in New York for coffee; in Paris, for wheat, rye, meal, sugar, alcohol, coffee, and oil; in Marseilles, for coffee; in Magdeburg, for sugar; in Antwerp, for coffee; in Rotterdam, Amsterdam, and Hamburg generally, we gather from the statements made. We understand that the same system has now been established in the London Produce Clearing House for wheat as well as for coffee, which Professor Cohn informs his readers has been so treated since 1888. It may be worth while noting here that the statement that London is the greatest wheat market seems doubtful. Certainly Liverpool handles more actual imported wheat than London, and elsewhere it is correctly stated that London is not conspicuous for the extent of its time-contracts in wheat. The system of guarantee of contracts by the clearing house is not followed in Liverpool either in the wheat or the cotton market. The latter fact Professor Cohn notes, but omits the former. The system of deposit of margins described by him as applying to the New York and Chicago wheat markets is also followed in the Liverpool corn trade.

There is some discussion on the effect on prices of the system of time-bargains. The measure of its effective operation is given in steadiness of prices; the rareness of large price-variations, even though small variations be, as they are likely to be, frequent. Appeal to statistics is, it is pointed out, attended with difficulty in the proper interpretation of the results. Some of the figures collected in the inquiry in regard to the Berlin Exchange are referred to, but it is remarked that there is much room for careful investigation, while very little has been done. As to the absolute level of price, few words are said: "Diese Ansicht liegt unterhalb jeder wissenschaftlichen Diskussion." On the London wheat market, but little affected by time-bargains, the depression of price is greatest. In a discussion of legislation against bourse business,

the German law of June, 1896, is discussed, and the opinion supported that it is likely to be ineffectual.

In the chapters on International Trade an account is given in some detail of the trade of Germany, Great Britain and the United States. The various means by which governments limit the free course of trade are described, and some discussion of the actual situation of opinion in regard to the question of Free Trade or Protection is given.

A long section deals with banks: first historically, then descriptive of modern banking in its various developments, not omitting agricultural credit banks and savings banks, concluding with a chapter on foreign exchanges. A section on insurance follows, again historical, theoretical and explanatory in due order. The detailed discussion of workmen's insurance is postponed, the subject being somewhat foreign to the general theme of the present volume.

In the last section of the book the subject dealt with is means of communication, roads, rivers, canals, railways, post, telegraphs, &c., &c. This appears to be the part written most recently. Referring to London's water supply, it is noted that the supplying companies levy $1\frac{3}{4}$ millions yearly from consumers, for what costs barely $\frac{3}{4}$ million. It is pointed out that London is not typical of England in regard to control by the community itself over such matters as gas and water supply, tramways, &c. The passage of these things under public management seems to be regarded as an inevitable tendency, spite of all trust in free competition and dislike for State interference. In the State management of such undertakings, which affect all classes of the community, the attainment of a considerable net revenue is approved. The grounds selected for the defence of such a policy are the increase of State needs owing to increase of responsibilities; the imperfection of forms of taxation; the lack in citizens of a sense of duty in matters of taxation (which leads to a preference for those forms of taxation whose burden is least sensible); and the difficulty of just assessment of the load of direct taxes, whence comes the necessity for relying on indirect taxation in part.

A brief account of the Manchester Ship Canal is concluded by an exclamation at the cost at which the advantages of cheapened transport charges have been obtained. In asking the question: "why did Manchester not build, instead of the canal, a railway at half the cost?" the learned author shows that, careful as have been his inquiries on the subject, he has not quite appreciated the local situation, nor grasped the local point of view.

The general policy which has in England deprived trades of whatever advantage they might have reaped from the competition between railways and canals is, naturally, unfavourably commented on, and compared and contrasted with the policy followed in regard to canals in France and in Germany, thus giving three separate types of policy. Some remarks are made on the influence of our railways in strangling our coastwise trade. Whilst the author is correct in stating that the amount of British tonnage engaged in over-sea trade has developed largely, whilst that in the

coasting trade has somewhat retrograded, he forgets that the greater facilities of modern days make the same amount of tonnage to do far more work than formerly. Had he compared the coasting trade clearances of to-day with those of the earlier period, he would have seen that there is development here also, though of course not so vast as that in foreign trade. There follow two long and instructive chapters on railways and railway policy, and on the postal system and telegraphs and telephones. Our notice is, however, already somewhat long, and we refrain from going into any details of these chapters.

The volume, unfortunately, contains no index, and the table of contents, occupying but two pages, can hardly replace so valuable an adjunct to a work touching very numerous subjects of interest. One further point strikes us: in so bulky a volume one might look for tolerably exhaustive discussion of important points. So numerous, however, are the matters dealt with, that we have experienced regret in finding that, on several points where we looked for a complete discussion, we were somewhat disappointed. On the other hand, it is true that there are plenty of examples to illustrate the thesis that lengthiness is not necessary to thoroughness in treatment.

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Part 1—The Recent Trend of Agricultural Competition: *W. E. Bear.* The Valuation of the Manures obtained by the Consumption of Foods for the Production of Milk: *Sir John B. Lawes and Sir J. Henry Gilbert.* The Price of English Corn in 1897. Statistics affecting British Agricultural Interests.

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No. 2—German Wage Theories; a history of their development: *J. W. Crook.*

No. 3—The centralization of administration in New York State: *J. A. Fairlie.*

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September—"Democratie industrielle": *O. Festy.* Les chemins de fer d'intérêt local en Europe: *E. de Freund* (*concluded in next number*). L'inscription maritime: *G. Salaun.* Les assurances ouvrières: *P. Guillot.*

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62—De l'indisponibilité et de l'indivisibilité totales et partielles du patrimoine. II. L'expérience: *R. de la Grasserie* (*continued in Nos.* 64, 66, *and* 67). La caisse des incendiés du Département de la Meuse, et les récents projets de création des caisses départementales d'assurances. II: *P. Salmon-Legagneur.*

63—Essai de recensement des employés et fonctionnaires de l'État, suivi d'une statistique des pensionnaires de l'État: *V. Turquan* (*continued in No.* 65). Un remède à la dépopulation: *H. Mazel.*

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65—Le travail de nuit des ouvrières: *M. Ansiaux.* L'origine des villages à banlieu, morcelée et des domaines agglomérés: *A. von Brandt.*

66—Les transformations de l'impunité: *G. Tarde.* L'acclimatation du crédit populaire en France: *M. Dufourmantelle.*

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August—Zwanzig Jahre Normalarbeitstag in der Schweiz: *Dr. Schuler.*

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AUSTRIA—

Statistische Monatschrift, 1898—

June—July—Die öffentliche Gesundheitspflege in Oesterreich seit dem Jahre 1848: *Dr. Fr. C. Presl.* Betriebsunfälle im Wiener Kleingewerbe: *Dr. S. Rosenfeld.* Die steiermärkische Arbeitsvermittlung: *Dr. E. Mischler.*

August—September—Vergleichende Uebersicht der österreichischen Straffälligkeitsstatistik: *Dr. H. Hoegel.* Die Arbeiter in den österreichischen Tabakfabriken: *Dr. S. Rosenfeld.*

October—Anbauflächen der Zuckerrüben im Jahre 1898. Die österreichischen Assecuranz Gesellschaften im Jahre 1896: *R. Krickl.* Das Feuerlöschwesen in Oesterreich mit Ende 1894: *K. Krafft.*

ITALY—

Giornale degli Economisti. 1898—

September—La proprietà ecclesiastica: *C. Carassai.*

October—La questione dei Telefoni in Inghilterra: *E. d. V.*

November—Dei criteri che debbono informare la storia delle dottrine economiche: *M. Pantaleoni.* Il congresso degli agricoltori in Torino: *F. Coletti.*

December—L'Accordo commerciale colla Francia: *E. Giretti.*

Rivista Italiana di Sociologia, 1898—

July—La delinquenza e la vita sociale in Russia: *E. Tarnowski.*

September—Sul metodo delle scienze sociali: *A. Chippelli.* Gli studi sociologici in Ispagna: *A. Posada.*

SWITZERLAND—

Journal de Statistique Suisse. 1898. *Lief* 7—Die Mortalitätsstatistik der Perityphlitiden in der Schweiz: *Dr. N. Asef.* Steuerlast und Steuerkraft der Gemeinden des Kantons St. Gallen: *O. Müller.*

VII.—*Quarterly List of Additions to the Library.*

Additions to the Library during the Quarter ended 15th December, 1898, arranged alphabetically under the following heads:—(a) *Foreign Countries;* (b) *India and Colonial Possessions;* (c) *United Kingdom and its Divisions;* (d) *Authors, &c.;* (e) *Societies, &c.* (*British*); (f) *Periodicals, &c.* (*British*).

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Argentine Republic—	
Comercio Exterior Argentino. Año 1898. No. 99	The Director-General of Statistics
Higiene. Anales del Departamento Nacional de. (Current numbers)	The Department
Buenos Ayres (*Province*). Memoria Demografica. Año 1895. Maps, la. 8vo. 1898	The Provincial Statistical Bureau
Buenos Ayres (*City*). Monthly Return of Municipal Statistics. (Current numbers).....	The Municipal Statistical Bureau
Austria-Hungary—	
Ackerbau- Ministeriums. Statistisches Jahrbuch des k.k., für 1896. Heft 2, Bergwerksbetrieb Osterreichs im Jahre 1896. Lief. 3.....	The Ministry of Agriculture
"Austria." Archiv für Gesetzgebung und Statistik. (Current numbers.) 8vo.	The Ministry of Commerce
Ausweis über die monatl. Durchschnittspreise von Weizen, Korn, Gerste, Hafer, und Mais in Marktorten. (Current numbers.) Sheets	The Central Statistical Commission
Consulats-Behörden. Jahresberichte der k. und k. österr.-ungar. (Current numbers.) 8vo.	The Statistical Department, Ministry of Commerce
Handel. Statistische Übersichten betreffend den auswärtigen. (Current monthly numbers)	
Rechtspflege. Verhältnisse der österr. Strafanstalten und der Gerichts- Gefängnisse in 1894. Fol.	
Sparcassen. Statistik der, für 1896. Fol.	
Statistische Monatschrift. (Current numbers.) Beilagen. Materialien zur Kenntnis des Personalcredites, mit besonderer Berücksichtigung der Verhältnisse der Kleingrundbesitzer und Kleingewerbetreibenden. 202 pp., 8vo. 1898.....	The Central Statistical Commission
Hungary. Handel. Auswärtiger, der Länder der Ungarischen Krone im Jahre 1897. Fol.	The Statistical Bureau of Hungary
Bukowina. Mittheilungen des statistischen Landesamtes des Herzogthums Bukowina. Hefte 4, 5, 6. 3 vols. La. 8vo. 1897-98.....	The Statistical Bureau
Brünn. Statistischer Wochenbericht . . . der Landeshauptstadt Brünn. (Current weekly numbers)	The Burgomaster

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Bauthätigkeit in Budapest in 1885-95. 8vo.	
Haupstadt Budapest im Jahre 1891. Resultate der Volksbeschreibung und Volkszählung. Band 3. 8vo. 1898	
Resultate der am 15 Nov., 1896, durchgeführten Conscription der Bevölkerungs Budapests. 8vo.	The Municipal Statistical Bureau
Sterblichkeit der Haupt- und Residenzstadt Budapest in 1886-90, und deren Ursachen.....	
Statistisches Jahrbuch der Haupt- und Residenzstadt Budapest. II Jahrgang. 1895 und 1896. La. 8vo.	
Prague. Bulletins hebdomadaires et trimestriels de la ville et communes-faubourgs. (Current numbers)	The Municipal Statistical Bureau
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Commerce spécial avec les pays étrangers. Bulletin mensuel du. (Current numbers.) 4to.	The Bureau of General Statistics
Mines de Belgique. Annales des, année 1898. Tome iii, livraison 4. Plates, 8vo.	The Administration of Mines
Travail. Annuaire de la Legislation du Travail. 1ere année, 1897. 8vo.	
Travail. Revue du Travail publiée par l'Office du. (Current monthly numbers.) 8vo.	The Belgian Labour Department
Travail du Dimanche. Vol. iv. Belgique. Consultation des Conseils de l'Industrie et du Travail. Enquête dans les Grands Magasins . . . 8vo. 1898.....	
Brussels—	
Bulletins hebdomadaires et trimestriels de statistique démographique et sanitaire. (Current numbers)	Dr. E. Janssens
Service d'Hygiène. Son organisation et son mode de fonctionnement. 52 pp., diagrams, &c., 8vo. 1898	
La Belgique Coloniale. 4e année. Nos. 36—48. Illustrations. 1898	The Editor
Bulgaria—	
Écoles dans la Principauté. Statistique des, pendant 1896-97. 1e Partie. Diagrams, &c. La. fol.	The Statistical Bureau
Mouvement commercial avec les pays étrangers. Navigation par ports. Prix moyens dans les villes. (Current monthly and quarterly numbers.) La. 8vo.	
China—	
Customs Gazette. April—June, 1898	
Medical Reports for half-year ended 30 Sept., 1897. Plates. 4to.	Sir Robert Hart, Bart., G.C.M.G.
Returns of Trade and Trade Reports for 1897. Part 2, Statistics for each port, with report on Foreign Trade of China. Diagrams, 4to.	
Denmark—	
Agriculture. Emploi de la terre en Danemark, le 15 Juillet, 1896. (Terrains cultivés et incultivés, prés, &c.) 4to.	The State Statistical Bureau

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Justice civile, 1891-95. (Commissions conciliatrices, partages, hypothèques . . .). 4to.	The State Statistical Bureau
Communications de Statistique. 4e Série, Tome iii. (Récoltes, 1897. Elections, 1895-98. Production d'alcool, sucre, &c., margarine.) 8vo. 1898.....	
Copenhagen. Stadslægens Aarsberetning for 1897. 45 pp., 4to.	The Municipal Statistical Bureau
Nationalökonomisk Tidsskrift, 1898. (Current numbers)	The Danish Political Economy Society
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Commerce extérieur. Bulletin mensuel du. (Current numbers)	The Director-General of Customs
Egyptian Daira Sanieh. Note upon the results of 1897, by the British Controller. 8vo.	Sir C. M. Kennedy, K.C.M.G.
Sanitaires, &c. Bulletin hebdomadaire de l'Administration des Services. (Current numbers)	The Health Department
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Agriculture. Bulletin du Ministère de l'. Année 1898. (Current numbers)	The Ministry of Agriculture
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Atlas de statistique agricole. Résultats généraux des statistiques agricoles décennales de 1882 et de 1892. Diagrams. 4to. 1897	
Chemins de fer de l'Europe. Situation au 31 Déc., 1897. Ouvertures en 1897. 6 pp. 4to.	The Ministry of Public Works
Chemins de fer français. Statistique des, au 31 Déc., 1896. Documents divers. 2e Partie. France—Interêt local. Algérie et Tunisie. 4to.	
Commerce de la France. Documents Statistiques. (Current monthly numbers)	Purchased
Commerce et Navigation. Tableau général du, année 1897. Vol. ii, Navigation (Navigation internationale, cabotage français et effectif de la marine marchande. État téchnique des ports, leur situation maritime . . . pendant 1897). La. fol.	The Director-General of Customs
Finances, Ministère des. Bulletin de Statistique et de Législation comparée. (Current monthly numbers.) Also Table alphabétique des matières contenues dans les 40 premiers volumes, 1877-96 : et Table des matières par service et par pays pour les 40 premiers volumes, 1877-96. 8vo. 1897-98	The Ministry of Finance
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Justice criminelle en France et en Algérie. Compte général de l'Administration de la, pendant 1895. 4to.	
Navigation intérieure. Statistique de la. Dépenses de premier établissement et d'entretien concernant les fleuves, rivières et canaux. Documents historiques et statistiques. 4to. 1898	The Ministry of Public Works

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Travail. Bulletin de l'Office du. (Current monthly numbers.) 8vo.	The French Labour Department
Travail. Les caisses patronales de retraites des établissements industriels. 8vo. 1898	
Paris. Annuaire Statistique de la ville de Paris. xvii^e année, 1896. Diagrams. La 8vo.	Dr. J. Bertillon
Annuaire de l'Économie Politique et de la Statistique, 1898. 12mo.	Purchased
Dictionnaire du Commerce, de l'Industrie, et de la Banque. Livr. 3, 4. 8vo. 1898	
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Monde Économique. (Current weekly numbers)	,,
Polybiblion. Revue Bibliographique Universelle. Parties Littéraire et Technique. (Current monthly numbers)	,,
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Revue d'Économie Politique. (Current monthly numbers)	,,
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Revue de Statistique. Recueil hebdomadaire. . . . (Current numbers.) 8vo.	The Publisher
École Libre des Sciences Politiques. Annales. (Current numbers)	The Institution
Musée Social. Circulaires. (Current numbers.) 4to.	,,
Société de Statistique de Paris. Journal. (Current monthly numbers)	The Society
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Berufs-, und Gewerbezählung, 14 Juni, 1895. Gewerbe-Statistik der Bundesstaten. Theil 2. 4to.	The Imperial Statistical Bureau
Handel des deutschen Zollgebiets. Monatliche Nachweise über den auswärtigen. (Current numbers)	The Imperial Statistical Bureau
Statistik der Reichstagswahlen von 1898. Map. 4to.	
Vierteljahrshefte zur Statistik des Deutschen Reichs. Jahrgang 1898. Heft 4. 4to.	
Prussia. Zeitschrift des K. Preussischen Statistischen Bureaus. Vierteljahrsheft 3, 1898	The Royal Prussian Statistical Bureau
Saxony. Zeitschrift des K. Sächsischen Statistischen Bureaus. Jahrgang 1898. Hefte 3 und 4. 4to.	The Statistical Bureau of Saxony
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Arbeiter-Kranken-Versicherung in Berlin im Jahre 1897. 4to.	The Municipal Statistical Bureau
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Archiv für Soziale Gesetzgebung und Statistik. Band xiii, Hefte 1 und 2. 1898	The Publisher
Jahrbuch für Gesetzgebung, Verwaltung, und Volkswirtschaft. 22er Jahrgang, 1898	The Editor
Jahrbücher für Nationalökonomie und Statistik. (Current monthly numbers)	The Publisher
Zeitschrift für die gesamte Staatswissenschaft. Heft 4, 1898	The Editor
Zeitschrift für Socialwissenschaft. (Current monthly numbers)	,,
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Commercio speciale di Importazione e di Esportazione. Statistica del. (Current monthly numbers)	
Istruzione primaria e normale. Statistica della, per l'anno scolastico 1895-96	
Movimento Commerciale nell' anno 1897. 2 vols., fol. diagrams	
L'Economista. (Current weekly numbers)	The Editor
Giornale degli Economisti. (Current monthly numbers)	,,
Rivista Italiana di Sociologia. Fasc. 5. 1898	,,
Japan—	
13th Statistical Report of the Agricultural and Commercial Department, 1898. (Entirely in Japanese.) Maps and diagrams. 8vo.	The Department
Mexico—	
Amonedacion e Introduccion de Metales Preciosos a las Casas de Moneda. Año fiscal de 1894-95. Fol.	The Statistical Bureau
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Estadistica fiscal. Datos relativos al primer y segundo semestre del año fiscal de 1897-98; y al año fiscal de 1897-98. 3 parts, fol.	

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Annuaire Statistique des Pays-Bas, 1897 et années antérieures. Métropole. 8vo.	The Central Statistical Commission
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Statistiek van den In-, Uit-, en Doorvoer over het Jaar 1897. Gedeelte 1 and 2. Fol.	The Director-General of Customs, &c.
Statistiek der Sterfte in 1891-95 van mannen van 18 tot en met 50 Jaar, met onderscheiding naar het beroep, den leeftijd en de doodsoorzaken. (Bijdragen, &c., No. 7). 4to. 1898	The Central Statistical Commission
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Boletim commercial. (Relatorios do Consuls de Portugal, &c.). (Current numbers)	Mr. J. Batalha Reis
Commercio do Continente do Reino e Ilhas adjacentes com paizes estrangeiros . . . no anno de 1896. 4to.	The Statistical Bureau
Caminhos de ferro do continente de Portugal. Elementos estatisticos dos, de 1877-97. 27 pp., 4to.	
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Mouvement de la Population de Finlande en 1896	
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Tarifa del impuesto de exportacion. 8vo. 1898	„
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Sociedad Geográfica de Madrid. Boletin y Revista de Geografia colonial y mercantil. (Current numbers)	The Society
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Bidrag till Sveriges officiela Statistik—	
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I. Telegrafväsendet, 1897. (Telegraphs)	
K. Helso-och Sjukvården, 1896. (Sanitation)	
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Öfversigt af de enskilda sedelutgifvande bankernas, &c., 1897. Fol	
Riksstat för år 1899. Sm. 4to.	
Uppgifter om Hypoteksbanken . . . för 1897	
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Annuaire Statistique de la Suisse. 7e année, 1898.	The Federal Statistical Bureau
Bulletin démographique et sanitaire suisse. (Current weekly numbers)	
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Recrues. Examen pédagogique des, en automne, 1897. Map, 4to.	

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Consular Reports, Special, Vol. 14. The Drug Trade in Foreign Countries. Reports on Laws and Regulations governing the Drug Business, Imports and Exports and Sale of Drugs, &c., disposal and renewal of prescriptions . . . 8vo. 1898	Bureau of Foreign Commerce, Department of State
Debt. Monthly Statements of the Public, and of Cash in Treasury. (Current numbers.) Sheets	
Gold, Silver, and Notes, &c., in Circulation, and Changes in Money and Bullion in the Treasury. Monthly Statements. (Current numbers.) Sheets	The Secretary of the Treasury
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Preliminary Report on the Income Account of Railways for 1896-97. 8vo.	
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Labor. 12th Annual Report of the Commissioner of, 1897. Economic Aspects of the Liquor Problem	The Commissioner of Labor
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Bureau of Statistics of Labor. 28th Annual Report, March, 1898. 8vo. (Contains—Comparative Wages and Prices, 1860-97. Graded Weekly Wages, in Massachusetts, other United States, and Foreign Countries, 1810-91)	The Bureau of Labor
Manufactures. Annual Statistics of, 1897. 12th Report. 8vo.	
State Board of Health. 29th Annual Report for 1897. 8vo.	The Board of Health
Michigan. Monthly Bulletin of Vital Statistics. (Current numbers)	The Division of Vital Statistics
Minnesota. Bulletin of Charities and Correction. (Current numbers)	The State Board of Correction
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Bureau of Labor Statistics. 15th Annual Report for 1897. 8vo.	The Bureau
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Boston (*City*). Department of Municipal Statistics. Special Publications. No. 2. Ordinary Revenue, 1892-96. 4to.	The Department
Banker's Magazine and Rhodes' Journal of Banking. (Current monthly numbers)	The Editor
Bradstreet's. (Current weekly numbers)	,,
Commercial and Financial Chronicle. (Current weekly numbers, with supplements)	,,
Engineering and Mining Journal. (Current numbers)	,,
Journal of Political Economy. Vol. vi, No. 4, 1898	The Publisher
Political Science Quarterly. Vol. xiii, No. 3, 1898	,,
Quarterly Journal of Economics. Vol. xiii, No. 1, 1898	,,
Yale Review. Vol. vii, No. 3. 1898	The Editor
American Academy of Arts and Science. Memoirs. Vol. xii, No. 4. 4to. 1898	The Academy
American Academy of Political and Social Science. Annals. Vol. xii, Nos. 2 and 3. 1898	,,
American Economic Association—	
Economic Studies: Vol. iii, No. 5. Housing of Working People in Yonkers: *E. L. Bogart*	The Association.
Publications. General Contents and Index of vols. i to xi, 1886-96. 52 pp., 8vo. 1898	
American Geographical Society. Bulletin. Plates. (Current numbers)	The Society
American Philosophical Society—	
Proceedings. Vol. xxxvii, No. 157. 8vo. 1898	The Society
Transactions. New Series. Vol. xix. Part 3, plates. 4to. 1898	
Columbia University. Studies in History, Economics and Public Law. Vol. x, No. 1. Sympathetic Strikes and Lockouts: *F. S. Hall.* 1898	Messrs. P. S. King and Son
Leland Stanford junior University publications. No. 14. Geological reconnaissance of the Coal Fields of the Indian Territory: *N. F. Drake.* 1898	The University
Sound Currency Committee. Leaflets, &c. 8vo. 1898	The Committee
Smithsonian Institution—	
Smithsonian Contributions to Knowledge. No. 1126. 4to. 1898	The Smithsonian Institution
Smithsonian Miscellaneous Collections. Vol. xl. Catalogue of Scientific and Technical Periodicals, 1665-1895. 2nd edition. No. 1125, 8vo. 1898	
Uruguay—	
Anuario Demografico de la Republica. Año viii. 1897. Plans. 8vo.	The Director of Civil Registration
Comercio exterior y movimiento de navegacion, año 1897. 8vo.	The Statistical Bureau
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Trade of India. Review of, in 1897-98. 1. Foreign Sea-borne; 2, Trans-Frontier; 3, Coasting Trade....	Finance and Commerce Department
Trade by Land with Foreign Countries. Monthly Accounts. (Current numbers)	The Statistical Bureau, Government of India
Trade and Navigation. Monthly Accounts. (Current numbers)	
Bengal. Annual Statement of sea-borne Trade and Navigation . . . with foreign countries and Indian Ports for 1897-98. 2 vols. Diagrams. Fol.	The Collector of Customs
Indian Engineering. (Current weekly numbers)	The Editor
Asiatic Society of Bengal—	
Journal. (Current numbers)	The Society
Proceedings. (Current numbers)	
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Statistical Year-book of Canada for 1897. 13th year of issue. 8vo.	The Department of Agriculture
Sessional Papers. Session 1897. Vol. xiii, Militia, Miscellaneous	Sir John G. Bourinot, K.C.M.G., LL.D.
Canadian Archives. Report for 1897. Maps	
Criminal Statistics for year 1896-97	
Government Clothing Contracts. Reports on, 1898....	
Harbours and Shipping. Report on, for 1897	
Insurance. Report of Superintendent, for 1897	
Interior. Report of Department, for 1896-97. Maps for Report on Canadian Irrigation, 1895-96	
Journals of House of Commons, Session 1897. Appendices Nos. 1 and 2. 1 vol.	
Trade and Commerce. Monthly Reports of Department of, for July, August, Sept., 1898	
Trade and Commerce. Quarterly Report of Department of, to 30th June, 1898	
Trade between Canada and United States. Special report on, 1898	
Waterway connecting Lake Huron with the St. Lawrence. Report on. Maps. 1898	
Yukon Maps (in envelope). 8vo.	
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Royal Society of Canada. Proceedings and Transactions. Second Series, Vol. iii. 1897	The Society
Cape of Good Hope—	
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(Corrected to 31st December, 1898.)

ROYAL STATISTICAL SOCIETY.

(FOUNDED 1834. INCORPORATED 1887.)

9, ADELPHI TERRACE,

STRAND, W.C., LONDON.

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1899.

ROYAL STATISTICAL SOCIETY,

9, Adelphi Terrace, Strand, W.C., London.

Honorary President.

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ROYAL STATISTICAL SOCIETY.

No. 9, Adelphi Terrace, Strand, W.C., London.

NOTICES TO FELLOWS.

December, 1898.

The Council desire to call the attention of the Fellows to the fact that notwithstanding the change in the name of the Society by the addition of the word "Royal," they are still, in using letters after their names, signifying the membership of the Society, only entitled under Rule 6, to use the letters F.S.S.

Annual Subscriptions are due in advance, on the 1st of January in each year. A Form for authorising a Banker or Agent to pay the Subscription Annually, will be forwarded by the Assistant Secretary, on application. When convenient, this mode of payment is recommended. Drafts should be made payable to the order of "The Royal Statistical Society," and crossed "*Drummond and Co.*"

To be included in the Ballot at any particular Ordinary Meeting, the Nomination Papers of Candidates for Fellowship must be lodged at the Office of the Society at least six days before the date of such Meeting.

Fellows who may desire to receive Special and Separate Notices of each Paper to be read before the Society at the Ordinary Meetings, should indicate their wishes to the Assistant Secretary.

The Ordinary Meetings of the Society during the Session 1898-99 will be held at 5 p.m., except the December Meeting, when the Chair will be taken at 5.30 p.m., in some cases in **The Lecture Theatre of the Royal United Service Institution, Whitehall, S.W.**, and in others at **The Society's Rooms**, 9, Adelphi Terrace, W.C.

Fellows are entitled to a copy of the Catalogue of the Library and of the Index to the Catalogue. They may be had on personal application at the office, or will be forwarded upon the payment of carriage (9*d.* per parcel post). Fellows residing abroad or in the colonies are requested to send the necessary amount to cover postage, according to postal circumstances. (Weight, 3 lb. 14 oz. and 2 lb. 10 oz. respectively.)

The Library and the Reading Room are open daily for the use of Fellows from 10 a.m. to 5 p.m., excepting on Saturdays, when they are closed at 2 p.m.

Fellows borrowing books from the Library are requested to be good enough to return them with as little delay as possible, but without fail at the expiration of a month, and without waiting for them to be recalled.

Fellows changing their Addresses are requested to notify the same to the Assistant Secretary, so that delay or error in forwarding communications, or the *Journal*, may be avoided.

A new feature has been introduced into the List of Fellows, whereby it is sought to signify those Fellows who have served on the Council, who have read Papers before the Society, and who have made presentations to the Library. It is very probable that at first omissions and errors will be found here, and it is desired that Fellows whose services to the Society in these directions have failed to be indicated, will kindly notify the omissions to the Assistant Secretary.

By Order of the Executive Committee.

CALENDAR FOR THE SESSION 1898-99.

1898	MON.	TUES.	WED.	THURS.	FRI.	SATUR.	SUN.	1899	MON.	TUES.	WED.	THURS.	FRI.	SATUR.	SUN.
NOV.	...	1	2	3	4	5	6	MAY	1	2	3	4	5	6	7
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	10	11	12	13	14	15	16		16	17	18	19	20	21	22
	17	**18**	19	20	21	22	23		23	24	25	26	27	28	29
	24	25	26	27	28	29	30		30	31					

The dates of the Ordinary Meetings of the Society, at which Papers are read and discussed, are marked in the Calendar above by **Black Figures.**

The Ordinary Meetings are held in some cases in **The New Lecture Theatre of the Royal United Service Institution, Whitehall, S.W.**, and in others **at The Society's Rooms.** See next page.

THE ANNUAL GENERAL MEETING

WILL BE HELD ON TUESDAY, THE 20TH JUNE, 1899,
AT THE SOCIETY'S ROOMS.

ROYAL STATISTICAL SOCIETY.

Programme of the Session 1898-99.

THE

ORDINARY MEETINGS

WILL BE HELD

IN THE MONTHS OF NOVEMBER TO JUNE,

IN SOME CASES IN THE

LECTURE THEATRE OF THE ROYAL UNITED SERVICE INSTITUTION,

WHITEHALL, S.W.,

AND IN OTHERS

AT THE SOCIETY'S ROOMS.

Tuesday, Nov.	*15,	5 p.m.	Tuesday, March	*21,	5 p.m.
,, Dec.	*13,	5.30 ,,	,, April	*18,	5 ,,
,, Jan.	*17,	5 ,,	,, May	*16,	5 ,,
,, Feb.	†21,	5 ,,	,, June	†20,	5 ,,

The following Papers have been read (Dec., 1898) :—

"Old Age Pensions." By SIR HENRY BURDETT, K.C.B. (Read 15th November.)

The President's Annual Address. "An Experiment in Commercial Expansion." By The RIGHT HON. LEONARD H. COURTNEY, M.P. (Delivered 13th December.)

The following Papers have been offered; and from these and from others that may yet be offered, a selection will be made by the Council :—

"Further Notes on the Use of Import and Export Statistics." By SIR ROBERT GIFFEN, K.C.B., F.R.S. (To be read in January.)

"Comparative Statistics of Australasian Railways." By PRICE HOWELL. (To be read next February.)

"On Life Tables—their Construction and Practical Application." By T. E. HAYWARD.

"The Statistical Aspect of the Sugar Question." By GEORGE MARTINEAU.

"Causes of Changes in Pauperism." By G. UDNY YULE.

"Foreign Exchanges and the Currency Question." By FRANCIS JOURDAN.

"Comparative Sea Power." By H. W. WILSON.

"Food Supply of Certain European Countries." By R. F. CRAWFORD.

* These Meetings will be held at the Theatre of the Royal United Service Institution.
† These Meetings will be held at the Society's Rooms.

ROYAL STATISTICAL SOCIETY,

AN OUTLINE OF ITS OBJECTS.

THE *Royal Statistical Society* was founded, in pursuance of a recommendation of the British Association for the Advancement of Science, on the 15th of March, 1834; its objects being, the careful collection, arrangement, discussion and publication, of facts bearing on and illustrating the complex relations of modern society in its social, economical, and political aspects,—especially facts which can be stated numerically and arranged in tables;—and also, to form a Statistical Library as rapidly as its funds would permit.

The Society from its inception has steadily progressed. It now possesses a valuable Library of over 30,000 volumes, and a Reading Room. Monthly meetings are held from November to June, which are well attended, and cultivate among its Fellows an active spirit of investigation; the Papers read before the Society are, with an abstract of the discussions thereon, published in its *Journal*, which now consists of sixty annual volumes, and forms of itself a valuable library of reference.

The Society has originated and statistically conducted many special inquiries on subjects of economic or social interest, of which the results have been published in the *Journal*, or issued separately.

To enable the Society to extend its sphere of useful activity, and accomplish in a yet greater degree the various ends indicated, an increase in its numbers and revenue is desirable. With the desired increase in the number of Fellows, the Society will be enabled to publish standard works on Economic Science and Statistics, especially such as are out of print or scarce, and also greatly extend its collection of Foreign works. Such a well-arranged Library for reference, as would result, does not at present exist in England, and is obviously a great *desideratum*.

The Society is cosmopolitan, and consists of Fellows and Honorary Fellows, forming together a body, at the present time, of about *one thousand* Members.

The Annual Subscription to the Society is *Two Guineas*, and at present there is no entrance fee. Fellows may, on joining the Society, or afterwards, compound for all future Annual Subscriptions by a payment of *Twenty Guineas*.

The Fellows of the Society receive gratuitously a copy of each part of the *Journal* as published Quarterly, and have the privilege of purchasing back numbers at a reduced rate. The Library (reference and circulating), and the Reading Room, are open daily, for the convenience of Members.

Nomination Forms and any further information will be furnished, on application to the *Assistant Secretary*, 9, *Adelphi Terrace, Strand, W.C., London.*

ROYAL STATISTICAL SOCIETY.

LIST OF THE SOCIETY'S PUBLICATIONS.

Note.—Sets—or Copies of any number—of the *Journal*, or of the other Publications of the Society (if not out of print), can be obtained of the publisher, E. Stanford, 26 and 27, Cockspur Street, Charing Cross, London, S.W., or through any bookseller.

	Price.
Proceedings— 308 pp. 1 vol. 8vo. 1834-37	(Out of print)
Transactions— Vol. 1, part 1. 148 pp. 4to. 1837	"
Journal (published quarterly)— Vols. 1—61. 8vo 1838-98	5*s.* each part*
General Analytical Index to Vols. 1—50 of the Journal (1838-87). In 4 parts. 8vo.— (i) For the First Fifteen Volumes (1838-52) (ii) For the Ten Volumes (1853-62) (iii) For the Ten Volumes (1863-72) (iv) For the Fifteen Volumes (1873-87)	3*s.* 6*d.* each part
Subject-Index to the Journal. Vols. xxviii—lvii, 1865-94	1*s.* 6*d.*
First Report of a Committee on Beneficent Institutions. I. The Medical Charities of the Metropolis. 68 pp. 8vo. 1857	2*s.* 6*d.*
Catalogue of the Library— iv + 142 pp. 8vo. 1859	(Out of print)
Statistics of the Farm School System of the Continent (reprinted from the *Journal*, with a Preface and Notes). 63 pp. 8vo. 1878	1*s.*
Catalogue of the Library— iv+573 pp. Cloth, super royal 8vo. 1884	10*s.*
Index to the Catalogue of 1884— i + 372 pp. Cloth, super royal 8vo. 1886	10*s.*
Jubilee Volume— xv + 372 pp. Cloth, 8vo. 1885	10*s.* 6*d.*
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Price of back Numbers of the Journal, &c., to Fellows only.

Fellows only, can obtain sets—or single copies of any number—of the *Journal*, or copies of the other Publications, at the Society's Rooms, 9, Adelphi Terrace, Strand, W.C.

By various resolutions of the Council, the prices charged to Members are as follows:—(a.) back numbers of the *Journal* of the Society, three-fifths of the publishing price; (b.) each part of the General Index to the *Journal*, 2*s.* 6*d.*; (c.) the Jubilee Volume, 5*s.*; (d.) the Subject Index, 1*s.*

NOTE.—One or two numbers of the *Journal* are now out of print.

* Before 1870 the price varied.

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ROYAL STATISTICAL SOCIETY.

Founded 15th March, 1834, Incorporated 31st January, 1887.

LIST OF THE FORMER

Patron and Presidents of the Society.

Patron.

	Period.
His Royal Highness The Prince Consort, K.G.	1840–61

Presidents.

	Period.
The Most Noble the Marquis of Lansdowne, K.G., F.R.S.	1834–36, 1842–43
Sir Charles Lemon, Bart., M.P., LL.D., F.R.S.	1836–38
The Right Hon. the Earl Fitzwilliam, F.R.S.	1838–40; 1847–49
The Right Hon. the Viscount Sandon, M.P. (afterwards Earl of Harrowby.)	1840–42
The Right Hon. the Viscount Ashley, M.P. (afterwards Earl of Shaftesbury.)	1843–45
The Right Hon. the Lord Monteagle	1845–47
The Right Hon. the Earl of Harrowby	1849–51
The Right Hon. the Lord Overstone	1851–53
The Right Hon. the Earl Fitzwilliam, K.G., F.R.S.	1853–55
The Right Hon. the Earl of Harrowby, K.G., D.C.L.	1855–57
The Right Hon. the Lord Stanley, M.P. (afterwards Earl of Derby.)	1857–59
The Right Hon. the Lord John Russell, M.P., F.R.S. (afterwards Earl Russell.)	1859–61
The Right Hon. Sir J. S. Pakington, Bart., M.P., G.C.B. (afterwards Lord Hampton.)	1861–63
Colonel W. H. Sykes, M.P., D.C.L.	1863–65
The Right Hon. the Lord Houghton, D.C.L., F.R.S.	1865–67
The Right Hon. W. E. Gladstone, M.P., D.C.L.	1867–69
W. Newmarch, F.R.S., Corr. Mem. Inst. of France	1869–71
William Farr, M.D., C.B., D.C.L., F.R.S.	1871–73
William A. Guy, M.B., F.R.S.	1873–75
James Heywood, M.A., F.R.S., F.G.S.	1875–77
The Right Hon. George Shaw Lefevre, M.P.	1877–79
Thomas Brassey, M.P. (now the Right Hon. Lord Brassey, K.C.B.)	1879–80
The Right Hon. Sir James Caird, K.C.B., F.R.S.	1880–82
Sir Robert Giffen, K.C.B., LL.D., F.R.S.	1882–84
Sir Rawson W. Rawson, K.C.M.G., C.B.	1884–86
The Right Hon. George J. Goschen, M.P., F.R.S.	1886–88
T. Graham Balfour, M.D., F.R.S.	1888–90
Frederic J. Mouat, M.D., LL.D., F.R.C.S.	1890–92
Charles Booth, D.Sc.	1892–94
The Right Hon. the Lord Farrer	1894–96
John Biddulph Martin, M.A., F.Z.S.	1896–97
Alfred Edmund Bateman, C.M.G.	1897
The Right Hon. Leonard H. Courtney, M.A., M.P.	1897–98

LIST OF FELLOWS.

Those marked *c* have Served or are Serving on the Council.
,, *d* have made Presentations to the Library.
,, *p* have contributed Papers to the Society.

*Those marked thus * have compounded for their Annual Subscriptions.*

The names of Present Members of Council are printed in SMALL CAPITALS.

Year of Election.		
1888		Ackland, Thomas G., F.I.A., *Avalon, Morland-road, Addiscombe.*
1888	*c d p*	Acland, The Right Hon. Arthur Herbert Dyke, M.A., M.P., *Westholme, Scarborough.*
1898		Acland, Sir C. Thomas Dyke, Bart., *Killerton, Exeter.*
1892	*d*	Acworth, William M., M.A., 47, *St. George's-square, S.W.*
1879	*d*	Adam, Robert, 2, *Gillsland-road, Edinburgh.*
1891		Addington, Right Hon. Lord, 24, *Princes-gate, S.W.*
1890		Adler, Marcus Nathan, M.A., F.I.A., 1, *Bartholomew-lane, E.C.; and* 22, *Craven-hill, W.*
1884		Agius, Edward Tancred, 52, *Belsize-park-gardens, N.W.*
1886		Ailesbury, The Most Hon. The Marquess of, 36, *Eaton-place, S.W.; and Savernake, Wilts.*
1879		Akers-Douglas, The Right Hon. Aretas, M.P., J.P., *Chilston Park, Maidstone, Kent.*
1876		Aldwinckle, Thomas Williams, 1, *Victoria-street, S.W.*
1898		Alexander, Alfred J., *Bristol Waterworks Company, Bristol.*
1896	*d*	Allan, Francis John, M.D., 5, *Tavistock-street, Strand, W.C.*
1887	*d*	Allard, Alphonse (*Hon. Director of Belgian Mint*). 52, *Avenue Louise, Brussels, Belgium.*

Year of Election.		
1889		Allen, Frank, J.P., *Guildford-terrace, off Hill-street, Thornton, Wellington, N.Z.*
1896		Allen, George Berney, *Cawnpore, N.W.P., India; and* 13, *Princes-gardens, S.W.*
1876		Allen, John T. R., 10, *Norfolk-square, Brighton.*
1898		Allen, William Henry, 1, *Dean's-yard, Westminster Abbey, S.W.*
1893		Anderson, Herbert William, *Halling, Kent.*
1889		Anderson, John Andrew (Alderman), *Faversham, Kent.*
1886		Andras, Henry Walsingham, F.I.A., 25, *Pall Mall, S.W.*
1871		Angus, R. B., *Montreal, Canada.*
1890		Ann, Alfred E., F.R.G.S., *The Oaks, Snaresbrook, Essex.*
1897		Anning, Edward Herbert, F.R.G.S., 78, *Cheapside, E.C.*
1884		Anning, Edward James, 78, *Cheapside, E.C.*
1895		Arbuthnot, Gerald Archibald, 52, *Eaton-place; and* 4, *Whitehall-place, S.W.*
1872		*Archibald, William Frederick A., M.A., 4, *Brick-court, Temple, E.C.*
1892		Argyle, Jesse, 67, *Mildmay-park, N.*
1897		Arnold, William, 11, *Albion-street, Hanley, Staffs.*
1888		Asch, William, 4, *Albert Mansions*, 118, *Victoria-street, S.W.*
1883		Aschenheim, Gustav, 27, *Mincing-lane, E.C.*
1888	*d*	Atkinson, Charles, 61, *Margravine-gardens, West Kensington, W.*
1893	*d p*	Atkinson, Frederick J. *Deputy Accountant General, Calcutta, India.*
1871		Atkinson, George W., 13, *Regent-street, Barnsley.*
1892		*Atkinson, Robert Hope, *New York Life Insurance Co., Place d'Armes. Montreal.*
1893		Aves, Ernest, M.A., 18, *Primrose-hill-road, N.W.*

Year of Election.		
1872	*c d*	*Babbage, Major-General Henry Prevost, *Mayfield, Lansdown, Cheltenham.*
1872		*Backhouse, Edmund, *Trebah, Falmouth.*
1892		Bacon, George Washington, F.R.G.S., 127, *Strand, W.C.*
1855	*c d*	Bailey, Arthur Hutcheson, F.I.A., 26, *Mount Ephraim-road, Streatham, S.W.*
1890		Bain, William Whyte, 56, *Ludgate Hill, E.C.*
1881	*c d p*	Baines, Jervoise A., C.S.I. (*Hon. Secretary*). 23, *Kensington Park-gardens, W.*
1887		Baldwin, Alfred, M.P., J.P., *Wilden House, near Stourport.*
1878		Balfour, The Right Hon. Arthur J., M.P., F.R.S., 10, *Downing-street, S.W.*
1886		Balfour, The Right Hon. Gerald William, M.P., 24, *Addison-road, Kensington, W.*
1881		*Barfoot-Saunt, William Henry, *Market Harborough, Leicestershire.*
1884		Barlow, William Henry, F.R.S., C.E., *High Combe, Old Charlton, Kent.*
1887		Barnes, Joseph Howard, F.I.A., 70, *Lombard-street, E.C.*
1889	*d*	Barr, Andrew Wallace, 30, *Moorgate-street, E.C.*
1885		Barratt, Thomas J., 75, *New Oxford-street, W.*
1887		*Barrett, Thomas Squire, F.Z.S., M.A.I., F.R. Hist. Soc., *Heswall Park West, Heswall, Chester.*
1878		Barry, Francis Tress, M.P., *St. Leonard's-hill, Windsor.*
1888		*Bartlett, Frederick W., 82, *Camberwell-grove, S.E.*
1889	*d*	Bastable, Professor C. F., M.A., LL.D., 6, *Trevelyan-terrace, Brighton-road, Rathgar, Co. Dublin.*
1873		Bate, George, *Swan Square, Burslem, Staffs.*
1877	*c d p*	Bateman, Alfred Edmund, C.M.G. (*Hon. Vice-President*), *Board of Trade, Whitehall-gardens, S.W.*
1888		Batten, John W., 3, *Harcourt Buildings, Temple, E.C.*

Year of Election.		
1877		Bayfield, Arthur, 95, *Colmore-row, Birmingham.*
1873		*Baynes, Alfred Henry, F.R.G.S., 19, *Furnival-street, Holborn, E.C.*
1871		*Baynes, William Wilberforce, F.I.A., *Pickhurst Wood, Bromley, Kent.*
1875	*d*	*Beardsall, Francis E. M., 63, *Brown-street, Manchester.*
1875	*d*	*Beaufort, William Morris, F.R.A.S., F.R.G.S., 18, *Piccadilly, W.*
1882	*d*	*Beazeley, Michael Wornum, M.A., 9, *Lyham-road, Brixton, S.W.*
1884		Bedford, James, *Woodhouse Cliff, Leeds.*
1889		Beecroft, William Henry, *Magistrates' Clerks' Office, Wellingborough.*
1882	*c d*	*Beeton, Henry Ramie (*Ga, Austin Friars, E.C.*), 9, *Marcsfield gardens, Hampstead, N.W.*
1886	*d*	Begg, Ferdinand Faithfull, M.P., *Bartholomew House, E.C.*
1890		Bell, Frederick, F.I.A., *Imperial Life Office*, 1, *Old Broad-street, E.C.*
1892		Bell, Frederick William, *P.O. Box 916, Johannesburg, S. Africa.*
1884	*d*	Bell, James T., *Northcote, Dowanhill, viâ Glasgow.*
1897		Bennett, William, *Australian Temperance & Gen. Life Ass. Soc., Melbourne.*
1888		*Benson, Godfrey R., 23, *The Grove, Boltons, S.W.*
1895		Bentinck, Lord Henry, M.P., 13, *Grosvenor-place, S.W.*
1884		*Bentley, Richard, F.R.G.S., *Upton, Slough, Bucks.*
1884	*d*	Berg, Wilhelm, 37, *Mincing-lane, E.C.*
1890		Berry, Arthur, M.A., *King's College, Cambridge.*
1891		Berry, Oscar, F.C.A., *Monument-yard, E.C.*
1875		Bevan, Thomas, *Stone Park, near Dartford, Kent.*
1869	*p*	*Beverley, The Hon. Mr. Justice Henry,
1879		*Bickford-Smith, William, J.P., D.L., *Trevarno, Helston, Cornwall.*
1891	*d*	Biddle, Daniel, M.R.C.S., L.S.A., *Charlton Lodge, Kingston-on-Thames.*

Year of Election.		
1897		Biggs, John Thomas, J.P., *Orby-villas, Mecklenburg-street, Leicester.*
1886	*d*	Biggs, Thomas Hesketh, *The Treasury, Calcutta, India.*
1888		Billinghurst, Henry F., 35, *Granville-park, Blackheath, S.E.*
1892		*Birkmyre, William, *Reform Club Chambers, Pall Mall, S.W.*
1881		Bishop, George, 113, *Powis-street, Woolwich.*
1898		Blount, Edward Thomas Joseph, F.F.A., 3, *Pall Mall East, S.W.*
1898		*Blyth, Sir James, Bart., *Stansted, Essex.*
1884	*d*	Boileau, John Peter H., M.D., &c. (*Brigade-Surgeon Lieut.-Col.*), *Trowbridge, Wilts.*
1881		Bolitho, Thomas Robins, *Trengwainton, Hea Moor, R.S.O., Cornwall.*
1887		Bolling, Francis, 2, *Laurence Pountney-hill, E.C.*
1890		Bolton, Edward, J.P., *Clifton House, Beverley-road, Hull.*
1880		Bolton, Joseph Cheney, *Carbrook, Larbert, Stirlingshire.*
1885	*c d*	*Bonar, James, M.A., LL.D., *Civil Service Commission, Westminster, S.W.*
1887		Bond, Edward, M.P., *Elm Bank, Hampstead, N.W.*
1898		Bone, Albert Ebenezer, *Knutsford House, Larkhall-lane, Clapham, S.W.*
1894		Bonnett, Alfred, 31, *Clifton-road, Peckham, S.E.; and* 10, *City-road, E.C.*
1885	*c d p*	Booth, Charles, D.Sc. (*Honorary Vice-President*), 2, *Talbot-court, Gracechurch-street, E.C.*
1885		Bordman, Emanuel Linden, *Victoria House, Trinity-street, Southwark, S.E.*
1879		Bordman, Thomas Joseph Clarence Linden, LL.D., *Victoria House, Trinity-street, Southwark, S.E.*
1888		Bottomley, George, *Arbourfield House, Derby.*
1875		Bowen, Horace George, *Bank of England, E.C.*
1894	*c p*	Bowley, Arthur Lyon, M.A., *St. John's School, Leatherhead.*
1879		Bowley, Edwin, F.I.A., 78, *South Hill Park, Hampstead.*
1886	*c d*	Boyle, Sir Courtenay, K.C.B. (*Vice-President*). *Board of Trade, Whitehall-gardens, S.W.*

Year of Election.		
1894	*c d p*	BRABROOK, EDWARD WILLIAM, C.B., F.S.A., 28, *Abingdon-street, S.W.*
1883		Braby, Frederick, F.C.S., F.G.S., *Bushey Lodge, Teddington.*
1875		Braby, James, J.P., *Maybanks, Rudgwick, Sussex.*
1888	*d*	Bramwell, Sir Frederick J., Bart., D.C.L., F.R.S., 5, *Great George-street, Westminster, S.W.*
1873	*c d p*	BRASSEY, HIS EXCELLENCY THE RIGHT HON. LORD, K.C.B. (*Honorary Vice-President*), *Government House, Melbourne; 4, Great George-street, S.W.; and 24, Park-lane, W.*
1864		*Braye, The Right Hon. Lord, *Stanford Hall, Market Harbro'; and 7, Buckingham-gate, S.W.*
1883		Brooke, C. B., 16, *Leadenhall-street, E.C.*
1874		Broom, Andrew, A.C.A., *The Chestnuts, Staines, Middlesex.*
1895	*d*	Broomhall, George James Short, 84, *Huskisson-street, Liverpool.*
1878		Brown, Alexander Hargreaves, M.P., 12, *Grosvenor-gardens, S.W.*
1896		*Brown, Daniel Maclaren, junr., *P.O. Box*, 187, *Corra Linn, Port Elizabeth, South Africa.*
1893		Brown, James William Bray, F.S.A.A., *Corporation-street, Birmingham; and Moseley, Worcestershire.*
1890		Browne, Edward William, 33, *Poultry, E.C.*
1875	*p*	Browne, Thomas Gillespie C., F.I.A., 11, *Lombard-street, E.C.*
1886		*Brunner, Sir John Tomlinson, Bart., M.P., *Druid's Cross, Wavertree, Liverpool.*
1865	*d*	Bunce, John Thackray, *Longworth, Priory-road, Edgbaston, Birmingham.*
1880	*c d p*	*BURDETT, SIR HENRY CHARLES, K.C.B., *The Lodge, Porchester-square, W.*
1873		*Burdett-Coutts, The Right Hon. the Baroness, 1, *Stratton-street, W.; and Holly Lodge, Highgate, N.*
1884		Burdett-Coutts, William, M.P. 1, *Stratton-street, Piccadilly, W.*
1897		Burke, David, A.I.A., F.I.Inst., *Royal Victoria Life Ins. Co., Montreal, Canada.*
1895		Burrup, John Arthur Evans, *Statistical Department, Custom House, Calcutta.*

Year of Election.		
1880		Burt, Frederick, F.R.G.S., *Uplands, Stoke Poges, near Slough, Bucks.*
1872		*Burton, The Right Hon. Lord, *Chesterfield House, Mayfair, W.; and Rangemore, Burton-on-Trent.*
1898		Burton, William Roland, *c/o Colonial Mutual Life Ass. Soc., Cape Town.*
1886		Bush, Baron William de, F.C.S., *Preshaw House, near Bishop's Waltham, Hants.*
1893	*d*	*Bushill, Thomas William, *Longfield, Bubbenhall, viâ Kenilworth.*
1892		Byworth, Charles Joseph, J.P., F.S.A.A. (*Town Clerk*), *Town House, Cape Town, South Africa.*
1897		Cairnes, Frederick Evelyn, *Worsley, Manchester.*
1893		Campbell, Charles William, *H.B.M. Consulate General, Shanghai, China.*
1877		Campbell, George Lamb, *Market-street, Wigan.*
1879		Campbell-Colquhoun, Rev. John Erskine, *Chartwell, Westerham, Kent.*
1889	*p*	Cannan, Edwin, M.A., 24, *St. Giles', Oxford.*
1891	*d*	Cannon, Henry W. (*Chase National Bank*), 15, *Nassau-street, New York, U.S.A.*
1881		Carden, Lionel Edward Gresley, *H.M. Consul, Mexico.*
1872		*Carillon, J. Wilson, F.S.A., F.R.G.S., *The Chimes, Richmond, Surrey.*
1893		*Carpenter, Henry Saunders, *Beckington House, Weighton-road, Anerley, S.E.*
1888		Carr, Ebenezer, 24, *Coleman-street, Bank, E.C.*
1893		Carr, William Robert Taylor, *Monument House, Monument-square, E.C.*
1888		Carruthers-Wain, William J., *Finsbury Circus Bldgs.*, 18, *Eldon-street, E.C.*
1890		*Carter, Eric Mackay, A.I.A., F.C.A., 33, *Waterloo-street, Birmingham.*
1883	*d*	*Carter, Joseph Robert, 67, *Cromwell-avenue, Highgate, N.*
1878		*Casley, Reginald Kennedy, M.D., *Ipswich.*

Year of Election.		
1881		Causton, Richard Knight, M.P., 12, *Devonshire-place, Portland-place, W.*
1884	*d*	*Chailley-Bert, Joseph, 44, *Chaussée d'Antin, Paris.*
1880		*Chamberlain, The Right Hon. Joseph, M.P., F.R.S. 40, *Prince's-gardens, S.W.*
1898		Chapman, Edward Stuart, 22, *Franconia road, Clapham-common, S.W.*
1886	*d*	*Chapman, Samuel, F.I.Inst., *Calle Real*, 1, *Coyoacan, Mexico, D.F.*
1892		*Chatham, James, F.I.A., F.F.A., *Inverleith Park House, Edinburgh.*
1851		*Cheshire, Edward, 3, *Vanbrugh Park, Blackheath, S.E.*
1886	*d p*	*Chisholm, George Goudie, M.A., B.Sc., F.R.G.S., 26, *Dornton-road, Balham, S.W.*
1895		Clarke, Bernard,
1888		Clarke, C. Goddard, J.P., *Fairlawn*, 157, *Peckham Rye, S.E.*
1871		Clarke, Ebenezer, *Fernleigh, Grove-road, Walthamstow.*
1882	*d*	*Clarke, Sir Ernest, M.A., F.L.S., F.S.A., 13*a*, *Hanover-square, W.*
1877		*Clarke, Henry, L.R.C.P., *H.M. Prison, Wakefield, Yorks.*
1890		Clarke, Henry, J.P., *Cannon Hall, Hampstead, N.W.*
1869	*c*	Cleghorn, John, 3, *Spring-gardens, S.W.*
1853		Clirehugh, William Palin, F.I.A., 66, *Cornhill, E.C.*
1888		Clough, Walter Owen, M.P., 89, *Gresham-st.; and Queen Anne's-mans., S.W.*
1889		Coate, James, *Lea Coombe House, Axminster.*
1873		Cockle, Major George, F.R.G.S., 9, *Belton-gardens, South Kensington, S.W.*
1884		Cockshott, John James, 24, *Queen's-road, Southport.*
1887	*c*	Cohen, Nathaniel Louis, *Englefield Green, Staines; and* 3, *Devonshire-place, Portland-place, W.*
1888		Coleman, Harry, 34, *Golden-square, W.*
1859		Coles, John, F.I.A., 39, *Throgmorton-street, E.C.*
1892	*p*	*Collet, Miss Clara Elizabeth, M.A., 36, *Berkeley-road, Crouch End, N.*

Year of Election.		
1887		Collet, Sir Mark Wilks, Bart., 2, *Sussex-square, W.; and St. Clere, Sevenoaks.*
1895		Collins, Howard James, *The General Hospital, Birmingham.*
1882		*Collum, Rev. Hugh Robert, M.R.I.A., F.R.C.I., *Leigh Vicarage, near Tonbridge, Kent.*
1891	*d*	Cooper, Joseph, 60, *Park-street, Farnworth, near Bolton.*
1874		Corbett, John, 20, *Hertford-street, Mayfair, W.*
1883		Corgialegno, M., *George-yard, Lombard-street, E.C.*
1873		Cork, Nathaniel, F.R.G.S., 18, *Birchin-lane, E.C.*
1889		Cornwallis, Fiennes Stanley Wykeham, M.P., *Linton-park, Maidstone, Kent.*
1895		Costello, James Edward, 3, *Throgmorton-avenue, E.C.*
1880	*d*	Cotterell-Tupp, Alfred, 17, *Devonshire-terrace, Hyde Park, W.*
1862	*c d p*	COURTNEY, THE RIGHT HON. LEONARD HENRY, M.A., M.P. (*President*), 15, *Cheyne Walk, Chelsea, S.W.*
1896	*d*	Cox, Harold, 6, *Raymond-bldgs., Gray's Inn, W.C.*
1888		Craggs, John George, C.A., *Stone House, St. John's, S.E.*
1874	*c d p*	CRAIGIE, MAJOR PATRICK GEORGE, (*Hon Secretary and Hon. Foreign Secretary*), 6, *Lyndhurst-road, Hampstead; and* 4, *Whitehall-place, S.W.*
1890	*c d p*	CRAWFORD, RICHARD FREDERICK, 4, *Whitehall-place, S.W.*
1891		*Crawley, Charles Edward, (*Controller General*), *Hyderabad, Deccan, India.*
1894		Crease, Major-General John Frederick, C.B., *United Service Club, Pall-mall, S.W.*
1878		Crewdson, Ernest, *Castle Meadows, Kendal.*
1892		Cripps, Charles Alfred, Q.C., M.P., 2, *Mitre-court-buildings, Temple, E.C.*
1886		Crispin, Edward, *Wallassy, Clarendon-road, Leytonstone, N.E.*
1890		Croal, David Octavius, 11, *Abchurch-lane, E.C.*
1883	*c d*	Cunningham, Rev. William, M.A., D.D., 2, *St. Paul's-road, Cambridge.*
1879	*d*	Curtis, Robert Leabon, F.S.I., J.P., 120, *London Wall, E.C.*

Year of Election.		
1873		Czarnikow, Cæsar, 29, *Mincing-lane, E.C.*
1886		Dale, Sir David, Bart., *West Lodge, Darlington.*
1888		Dangerfield, Athelstan, A.C.A., 56, *Cannon-street, E.C.*
1898		*Danson, Francis Chatillon, *Liverpool and London Chambers, Liverpool.*
1880	*c d p*	Danvers, Frederick Charles, *Hazledene, Crockford Park-road, Addlestone, Surrey.*
1873	*c d p*	Danvers, Sir Juland, K.C.S.I., 103, *Lexham-gardens, Kensington, W.*
1897	*d*	*Darwin, Major Leonard, R.E., F.R.G.S., 12, *Egerton-place, S.W.*
1892		Dash, William Lawson, J.P., 301, *Pitt-street, Sydney, N.S.W.*
1893		Davidson, Captain J. H. D., *Box* 1463, *G.P.O., Sydney, N.S.W.*
1869		Davies, James Mair, 168, *St. Vincent-street, Glasgow.*
1896		Davies, Theodore Llewelyn, *The Treasury, Whitehall, S.W.*
1888		Dawson, G. J. Crosbie, M. Inst. C.E., F.G.S., *North Staffordshire Railway, Stoke-upon-Trent.*
1897		Deane, Albert Bickerton, 35, *Great George-street, Westminster, S.W.*
1880		Debenham, Frank, 1, *Fitzjohn's avenue, Hampstead, N.W.*
1885	*d*	De Broë, Emile Conrad De Bichin, 41, *Belsize Avenue, N.W.*
1879		*De Ferrieres, The Baron Du Bois, J.P., *Bay's-hill House, Cheltenham.*
1898		Defries, Wolf, B.A., 4, *Cleveland-gardens, Bayswater; and The Lawn, Thames Ditton.*
1891		Denne, William, *Phillimore, Wetherill-road, New Southgate, N.*
1898	*d*	Denny, John Thavies, 42, *Devonport-road, Shepherd's Bush, W.*
1873		Dent, Edward, 2, *Carlos-place, Grosvenor-square, W.*

Year of Election.		
1887		Dent, George Middlewood, 13, *Chambres-road, Southport.*
1889		De Rothschild, Leopold, J.P., D.L. (Alderman), 5, *Hamilton-place, Piccadilly, W.*
1892		De Smidt, Henry (*Permanent Under-Secretary*), *Cape Town, Cape Colony.*
1898		Dever-Summers, Frank, 71 *and* 72, *King William-street, E.C.; and National Liberal Club, S.W.*
1892		Dewar, William Nimmo (*Citizens' Life Assurance Co.*), 21, *Castlereagh-street, Sydney, N.S.W.*
1890		Dickinson, Willoughby Hvett, 51, *Campden-hill-road, W.*
1866	*c d p*	*Dilke, The Right Hon. Sir C. Wentworth, Bart., M.P., LL.M., 76, *Sloane-street, S.W.*
1897		Dobson, Goland Burton, 58, *Lincoln's Inn Fields, W.C.*
1889		Double, Alfred, C.C., 92 *and* 93, *Fore-street, E.C.*
1889		Doubleday, William Bennett, 123, *Tulse-hill, S.W.*
1889	*d*	Douglas, J., *E.I. Railway House, Dalhousie Square, Calcutta.*
1878	*d*	Doyle, Patrick, C. E., F.G.S., M.R.A.S., *Calcutta.*
1894	*c d p*	Drage, Geoffrey, M.A., M.P., 15, *Wilton-place, S.W.*
1890		Drummond, Charles James, 21, *Dalmore-road, West Dulwich, S.E.*
1897		Dudfield, Reginald, M.A., M.B., 19, *Blomfield-road, Maida Vale, W.*
1895	*c*	Dudley, The Right Hon. the Earl of, *Board of Trade, Whitehall Gardens, S.W.*
1875	*d p*	Dun, John, *Parr's Bank, Bartholomew-lane, E.C.*
1886		Dundonald, The Right Hon. the Earl of, 34, *Portman-square, W.*
1878	*c*	*Dunraven, The Right Hon. the Earl of, K.P., *Kenry House, Putney Vale, S.W.*
1885		Dyer, William John, 17, *Montpelier-row, Blackheath, S.E.*

Year of Election.		
1888		Earnshaw, Jacob, *Prudential Assurance Buildings*, 78, *King-street, Manchester.*
1887		Ebbsmith, Joseph, 86, *St. James's-street, S.W.*
1888	*d*	Eckersley, J. C., M.A., F.R.G.S., *Ashfield, Wigan.*
1883	*c d p*	Edgeworth, Professor Francis Ysidro, M.A., D.C.L., 5, *Mount Vernon, Hampstead; and All Souls', Oxford.*
1896		Edwards, Charles Lewis, 748, *Avenida de Mayo, Buenos Aires.*
1880		Egerton of Tatton, The Right Hon. Earl, 7, *St. James's-square, S.W.*
1885		Elliot, William Henry, 122, *Mansion House-chambers, Queen Victoria-street, E.C.*
1885	*c d p*	Elliott, Thomas Henry, C.B. (*Vice-President*), *Board of Agriculture*, 4, *Whitehall Place, S.W.*
1885		Elliott, William, 22, *St. George's-street, Cape Town.*
1895		Elliott, William, junr., *P.O. Box* 1,583, *Johannesburg, S. Africa.*
1895		Elwell, William Henry, 38, *Parliament-street, S.W.*
1889		Erhardt, William, 7, *Bury-street, Bloomsbury, W.C.*
1896		Everett, Percy Wynn, *Elstree, Herts.*
1892		Faber, Harald, *Fiona, Lennard-road, Penge, S.E.*
1875		Faraday, Frederick J., 17, *Brazennose-street, Manchester.*
1888		Farlow, A. R. King, 4, *King-street, Cheapside, E.C.*
1889	*d*	Farnworth, Edward James, 20, *Cannon-street, Preston.*
1878		Farren, George, J.P., M.Inst.C.E., *Carnarvon.*
1878	*c d p*	Farrer, The Right Hon. Lord (*Honorary Vice-President*), *Abinger Hall, Dorking.*

Year of Election.		
1890		Faulks, Joseph Ernest, B.A., F.I.A., 187, *Fleet-street, E.C.*
1893		*Fawcett, Mrs. Millicent Garrett, 2, *Gower-street, W.C.*
1882		Fell, Arthur, M.A., 46, *Queen Victoria-street, E.C.*
1894		Fellows, Rowland Hill, F.I.A., 200, *Amesbury-avenue, Streatham Hill, S.W.*
1893		Fenwick, John Fenwick, *Spencer House, Wimbledon Common.*
1894		Field, John William (*Gas Light and Coke Company*), *Horseferry-road, Westminster, S.W.*
1880		Finlaison, Alexander John, C.B., F.I.A., 19, *Old Jewry, E.C.*
1889		*Finlay, Major Alexander, *The Manor House, Little Brickhill, Bletchley, Bucks.*
1884	*d*	*Finnemore, The Hon. Mr. Justice R. I., F.R.G.S., *Supreme Court, Pietermaritzburg, Natal, South Africa.*
1892		Fisher, George, J.P., M.H.R. (*Chevalier of the Order of Crown of Italy*), *Hill-street, Wellington, N.Z.*
1888		Fisher, Walter Newton, F.C.A., 4, *Waterloo-street, Birmingham.*
1898		Fisk, George William Victor, 142, *Holborn-bars, E.C.*
1885		*Fitz-Gerald, Lt.-Col. Wm. G., M.A., F.R.Hist.S., F.R.S.L., *Conneragh, Youghal, Ireland.*
1896		Fletcher, Benton, 44, *Bankside, Southwark, S.E.*
1893	*d p*	*Flux, Alfred William, M.A. (*Owen's College, Manchester*), 57, *Parsonage-road, Withington, Manchester.*
1882		Foley, Patrick James (*Pearl Ins. Co.*), *Adelaide-place, London Bridge, E.C.*
1889		Foot, Alfred, *Thurles, 35, Thornhill-road, Croydon.*
1898	*d*	Forster, John Walter, 3, *Ossington-villas, Nottingham.*
1841	*c*	Fortescue, The Right Hon. Earl, *Castle Hill, South Molton, Devon.*
1893		Fortune, David, J.P., 197, *Pitt-street, Glasgow.*
1884		Fosbery, William Thomas Exham, *The Castle-park, Warwick.*
1897		Fountain, H., 44, *Parliament-street, S.W.*

Year of Election.		
1868	*c*	Fowler, William, 43, *Grosvenor-square, W.*
1890	*d p*	Fox, Charles Allen, M.R.C.S., M.R.A.S., M.S.A., *Cathays, Cardiff.*
1893		Fox, Stephen Newcome, 12, *Cromwell-crescent, South Kensington, S.W.*
1878	*c d*	Foxwell, Professor H. Somerton, M.A., *St. John's College, Cambridge.*
1894		Francis, Joseph, 10, *Finsbury-square, E.C.*
1887		Frankland, Frederick William, F.I.A., *New York Life Office*, 346, *Broadway, New York.*
1893		Franklin, Ernest L., 60, *Old Broad-street, E.C.*
1886	*d*	Fream, Professor William, B.Sc., Lond., L.D., F.L.S., F.G.S., *The Vinery, Downton, Salisbury.*
1887		Freeman, T. Kyffin, F.G.S., 35, *Whitehall-park, N.*
1890		Freestone, John, *Sutton-in-Ashfield, Nottingham.*
1896	*d*	Fulcomer, Professor Daniel, *State Normal School, Milwaukee, Wis., U.S.A.*
1886		Fuller, George Pargiter, *Neston-park, Corsham, Wilts.*
1878		Fuller, William Palmer, *Portland House, Basinghall-street, E.C.*
1879		Gairdner, Charles, *Broom, Newton Mearns, Renfrewshire.*
1852		Galsworthy, Sir Edwin Henry, J.P., 26, *Sussex-place, Regent's-park, N.W.*
1873		*Galton, Capt. Sir Douglas, K.C.B., D.C.L., F.R.S., 12, *Chester-street, Grosvenor-place, S.W.*
1860	*c d p*	Galton, Francis, F.R.S., F.R.G.S., 42, *Rutland-gate, S.W.*
1887		Garcke, Emile, *Donington House, Norfolk-street, Strand, W.C.*
1889	*d*	Garland, Nicholas Surrey, *Finance Department, Ottawa, Canada.*
1895		Garvan, John Joseph, *Citizen's Life Assurance Co., Sydney, N.S.W.*
1879		*Gassiot, John Peter, J.P., *The Culvers, Carshalton, Surrey,*

Year of Election.		
1880		*Gates, John Benjamin, A.C.A., 47, *Warwick-street, Regent-street, W.*
1896		Gerlich, Hermann Gustav, Dr. Jur., 42, *Kensington-mansions, Trebovir-road, Earl's Court, S.W.*
1885		Gibb, George S., *North-Eastern Railway Company, York.*
1871		Gibbs, George Sleight, 3, *Vane-terrace, Darlington.*
1889	*d*	Gibson, George Rutledge, 55, *Broadway, New York City, U.S.A.*
1867	*c d p*	*Giffen, Sir Robert, K.C.B., LL.D., F.R.S. (*Honorary Vice-President*). 9, *Bina-gardens, South Kensington, S.W.*
1877		Gilbert, William H. Sainsbury, 70, *Queen-street, Cheapside, E.C.*
1878		*Glanville, Silvanus Goring, *Lloyd's, E.C.*
1860	*c p*	Glover, John, J.P., 88, *Bishopsgate-street Within, E.C.*
1888		Goad, Charles E., M. Am. and Can. Soc. C.E. 53, *New Broad-st., E.C.; and Montreal, Canada.*
1897	*d p*	Gomme, George Lawrence, F.S.A., 24, *Dorset-square, Marylebone, N.W.*
1884	*d*	*Gonner, Professor Edward C. K., M.A., *University College, Liverpool.*
1885		Goodsall, David Henry, F.R.C.S., 17, *Devonshire-place, W.*
1892		Goodwin, Alfred, M.A., 2, *Charles-road, St. Leonards, Sussex.*
1868	*c p*	Goschen, The Right Hon. George Joachim, M.P. (*Honorary Vice-President*), *Admiralty House, Whitehall, S.W.; and Seacox-heath, Hawkhurst.*
1855		*Gosset, John Jackson, *Thames Ditton, Surrey.*
1885		Goulding, William Purdham, F.S.I., 41, *Moorgate-st., E.C.;* & 18, *Mercers-rd., N.*
1887		Gover, Frederic Field, 10, *Lee Park, Blackheath, S.E.*
1893		*Gray, The Hon. James McLaren, M.A., F.R.G.S., 6, *Albemarle-street, Piccadilly, W.*
1895	*d*	Green, John Little, *Langholm, Embleton-road, Lewisham, S.E.*
1888		Green, Joseph Shaw, 18, *King Street, Warrington.*
1895		Gretton, John, junr., M.P., *Burton-on-Trent.*
1887		Gribble, George J., *Henlam Grange, Biggleswade.*

Year of Election.		
1883		Griffin, Josiah, *Vanbrugh Park, Blackheath, S.E.*
1868		Griffith, Edward Clifton, *Reliance Office, 71, King William-street, E.C.*
1883	*d*	Grimshaw, Thomas Wrigley, C.B., M.D., M.A. (*Registrar-General of Ireland*), *Priorsland, Carrickmines, Co. Dublin.*
1889	*p*	Grosvenor, George, *Holywell, Streatham-common, S.W.*
1878		Guthrie, Charles, F.C.A., *London Bank of Australia, Melbourne, Victoria.*
1885	*d*	Guthrie, Edwin, *Victoria Park, Manchester.*
1887	*d*	Guyot, Yves (*Deputé*), 95, *Rue de Seine, Paris.*
1880		*Gwynne, James Eglinton A., J.P., F.S.A., 97, *Harley-street, W.; Folkington Manor, Polegate, Sussex.*
1887		Gwyther, John Howard, 34, *Belsize-park-gardens, N.W.*
1892	*d*	Hadfield, Robert A., *Fairfield, Sheffield.*
1873	*d*	*Haggard, Frederick T., 1, *Broadwater Down, Tunbridge Wells.*
1887		Haldeman, Donald Carmichael, 17 *and* 18, *Cornhill, E.C.*
1883		Hall, Sir John, K.C.M.G., *Hororata, Canterbury, New Zealand.*
1897	*d*	Hall, Thomas, *Railway Commissioners' Offices, Sydney, N.S.W.*
1878		Hallett, Thomas George Palmer, M.A., *Claverton Lodge, Bath.*
1887	*d*	Hamilton, Sir Edward W., K.C.B., *The Treasury, Whitehall, S.W.*
1873	*c p*	Hamilton, The Right Hon. Lord George Francis, M.P. 17, *Montagu-street, Portman-square, W.*
1884		*Hammersley, Hugh Greenwood, 14, *Chester-square, S.W.*
1885		*Hancock, Charles, M.A., 2, *Cloisters, Temple, E.C.; and Reform Club, S.W.*
1875		Hankey, Ernest Alers, *Hinxton Hall, Saffron Walden, Essex.*

Year of Election.		
1876		Hansard, Luke, 68, *Lombard-street, E.C.*
1871		*Harcourt, Right Hon. Sir William Vernon, Q.C., M.P., F.R.S., *Reform Club, S.W.*
1886		*Hardcastle, Basil William, 12, *Gainsborough Gardens, Hampstead, N.W.*
1883		Harding, G. P., *La Chaumière, Trouville S./M., France.*
1884		Hardy, George Francis, F.I.A., 12, *Waterloo-place, S.W.*
1893		Harrap, Thomas, 143, *Stamford-street, Ashton-under-Lyne, Lancs.*
1868		Harris, David, *Caroline Park, Granton, Edinburgh.*
1897		Harris, Walter Fred., F.I.C.A., 16, *Parliament-street, Hull.*
1887		Harris, William A., F.R.S.S.A., *Phœnix Chambers, Exchange, Liverpool.*
1882	*p*	Harris, William James, *Halwill Manor, Beaworthy, N. Devon.*
1889		Harrold, Major Arthur Lucas, *Adelaide, South Australia.*
1881	*c*	Harvey, Alfred Spalding, B.A., 67, *Lombard-street, E.C.*
1896		Hawkins, Willoughby R., *Bute Docks, Cardiff.*
1897		Hayakawa, S., *The Treasury, Tokio, Japan.*
1895	*d*	Haynes, Thomas Henry, *Rough Down, Boxmoor, Herts.*
1898		Hayward, Thomas Ernest, M.B.Lond., F.R.C.S., *Clipeley Lodge, Haydock, near St. Helens.*
1896		Heap, George, *The Charter House, Charterhouse-square, E.C.*
1887		*Heap, Ralph, junr., 1, *Brick-court, Temple, E.C.*
1896		*Heaton-Armstrong, William Charles, J.P., 30, *Portland-place, W.*
1884		Hedley, Robert Wilkin, 41, *Parliament-street, Westminster, S.W.*
1889		*Hemming, Arthur George, F.I.A., *Oatlands Wood, Weybridge.*
1865		Hendriks, Augustus, F.I.A., 7, *Cornhill, E.C.*
1855	*c d p*	*Hendriks, Frederick, F.I.A., 7, *Vicarage-gate, Kensington, W.*
1897		Hepburn, Arnold, 21, *Lingfield-road, Wimbledon.*

Year of Election.		
1888		Heriot, George, 1, *Whittington House, Leadenhall-street, E.C.*
1898		Herring, George, 1, *Hamilton-place, Piccadilly, W.*
1898		Hewart, Miss Beatrice, B.A., Lond. 20, *Croxted-road, West Dulwich, S.W.*
1881		Hewat, Archibald, F.I.A., F.F.A., 22, *George-street, Edinburgh.*
1890	*d*	Hewins, Professor W. A. S., M.A., 10, *Adelphi-terrace, W.C.; and The Rowans, Putney Lower Common, S.W.*
1895		Hewitt-Fletcher, Stanley, A.C.A., *Administration House, Zomba, B.C.A.*
1886		Hibbert, H. F., 8, *Park-road, Chorley, Lancashire.*
1892	*c d p*	*Higgs, Henry, LL.B., 12, *Lyndhurst-road, Hampstead, N.W.*
1878		*Hill, Frederick Morley, 22, *Richmond-road, Barnsbury, N.*
1890		Hinde, Frederick, *Darley Dale, Kent House-road, Beckenham.*
1879		Hoare, H. N. Hamilton, 121, *Sloane-street, S.W.*
1897		Hodgson, William Gill, A.S.A.A., *Municipal-buildings, West Hartlepool.*
1895	*d*	Hoffman, Frederick L., *Prudential Ins. Co. of America, Newark, N.J., U.S.A.*
1889		Hogg, Quintin (Alderman), 5, *Cavendish-square, W.*
1888		Hollams, John, 52, *Eaton-square, S.W.*
1895		Holland, Hon. Lionel Raleigh, M.P., 15, *Savile-row, W.*
1898		Holland, Robert Martin, 68, *Lombard-street, E.C.*
1894	*d p*	Hollerith, Herman, Ph.D., &c., 1054, 31*st-street, Washington, D.C., U.S.A.*
1888		Hollington, Alfred J., *Aldgate, E.*
1894		Home, Noel Charles Minchin, LL.B., A.I.A., *c/o W. W. Wynne, Westcote, Dorking.*
1891	*d*	Hooker, Sir Joseph Dalton, G.C.S.I., F.R.S., &c., *The Camp, Sunningdale.*
1895	*d p*	*Hooker, Reginald Hawthorn, M.A., 3, *Gray's Inn Place, W.C.*
1896		Hooper, Angus, *Montreal, Canada.*
1879		Hooper, George Norgate, *Elmleigh, Hayne-road, Beckenham, Kent.*

Year of Election.		
1878	*c p*	Hooper, Wynnard, 13, *Sumner-place, Onslow-square, S.W.*
1887		Hopkins, John, *Little Boundes, Southborough, Kent.*
1896		Hopkinson, Samuel Day, 75, *Old Broad-street, E.C.*
1894		Houldsworth, Sir William H., Bart., M.P., 35, *Grosvenor-place, S.W.*
1883		Howell, Francis Buller, 2, *Middle Temple-lane, E.C.*
1883	*d*	Howell, George, *Hampden House, Ellingham-road, Shepherd's Bush, W.*
1897		Howell, Price, *Lindfield, near Sydney, N.S.W.*
1864	*d*	Hudson, Thomas, 8, *Helix-gardens, Brixton, S.W.*
1895		Huelin, James Wilson (*Australian Financial Agency*), *Central-bldgs., William-st., Perth, W. Australia.*
1894		Hughes, Arthur John, C.I.E., M.I.C.E., *Bhagulpur, Bengal, India.*
1874	*c d p*	Humphreys, Noel Algernon (*Honorary Secretary*), *General Register Office, Somerset House, Strand W.C.*
1893		Humphreys-Owen, Arthur Charles, M.P., *Glansevern, Garthmyl, Montgomeryshire.*
1883		Hunt, Richard Aldington, A.I.A., *County-buildings, Corporation-street, Birmingham.*
1888		Hunter, George Burton, *Wallsend-on-Tyne.*
1890		Huth, Ferdinand M., 12, *Tokenhouse-yard, E.C.*
1888		Hyde, Clarendon G., 4, *Pump-court, Temple, E.C.*
1887		Hyde, Henry Barry, 5, *Eaton-rise, Ealing, W.*
1893	*d*	Hyde, John, 1458, *Euclid-place, Washington, D.C., U.S.A.*
1897		Ingall, Godefroi Drew, F.I.S., *Auckland, New Zealand.*
1874	*d p*	*Ingall, William Thomas Fitzherbert Mackenzie, 13, *Pinfold-road, Streatham, S.W.*

Year of Election.		
1869		*Inglis, Cornelius, M.D., *Athenæum Club, S.W.*
1887		Irvine, Somerset William D'Arcy, J.P., *Equitable Life Office of United States, Brisbane.*
1864		*Ivey, George Pearse, 39, *Denmark-villas, West Brighton.*
1880		*Jackson, The Right Hon. William Lawies, M.P., *Chapelallerton, Leeds.*
1894		Jamieson, George, C.M.G. (*Asst. Judge, Registrar, and Consul*), *H.B.M. Consulate, Shanghai, China.*
1879		Jamieson, George Auldjo, 37, *Drumsheugh-gardens, Edinburgh.*
1872	*c p*	Janson, Frederick Halsey, F.L.S., 41, *Finsbury-circus, E.C.*
1897		Jay, E. Aubrey Hastings, *Tower House, Woolwich.*
1896	*d*	Jenney, Charles Albert, 58, *William-street, New York City, U.S.A.*
1898		Jennings, Arthur Seymour, 62, *Barry-road, East Dulwich, S.E.*
1881		*Jersey, The Right Hon. the Earl of, P.C., *Osterley-park, Isleworth.*
1881		Johnson, Edwin Eltham, 110, *Cannon-street, E.C.*
1891		Johnson, George, 10, *The Avenue, Durham.*
1888		Johnson, John Grove, 23, *Cross-street, Finsbury, E.C.*
1880		Johnson, Walter, *Rounton Grange, Northallerton.*
1897		Johnston, James, 129 *High-street, Winchester; & National Liberal Club, S.W.*
1878	*d*	Johnstone, Edward, *Queensbury, South-road, Clapham Park, S.W.*
1884		*Jones, Edwin, J. P., 141, *Cannon-street, E.C.*
1878	*d*	Jones, Henry R. Bence, B.A., *Board of Trade, Whitehall-gardens, S.W.*
1894	*d p*	Jones, Hugh Richard, M.A., M.D., 58*a*, *Grove-street, Liverpool.*
1888		Jones, J. Mortimer, 12, *Nicholas-lane, E.C.*

Year of Election.		
1896		Jones, John William, 20, *High-street, Swansea.*
1877		Jones, Theodore Brooke, 70, *Gracechurch-street, E.C.*
1888	*d*	*Jordan, William Leighton, 25, *Jermyn-street, S.W.*
1858	*c d p*	Jourdan, Francis, *Normount, Torquay, Devon.*
1890		Joyner, Robert Batson, C.I.E.
1889		Justican, Edwin, F.I.A., *St. Mildred's House, Poultry, E.C.*
1898		Karminski, Eugene, *Credit Lyonnais*, 40, *Lombard-street, E.C.*
1895		Karpeles, Benno, LL.D., xix/2 *Arm Crustergasse* 6, *Vienna.*
1873		Kay, Duncan James, *Drumpark, Dumfries, N.B.*
1885		Keen, William Brock, 3, *Church-court, Old Jewry, E.C.*
1884		Kelly, Edward Festus, 182—184, *High Holborn, W.C.*
1883	*c d*	Keltie, John Scott, F.R.G.S., LL.D., 27, *Compayne-gardens, West Hampstead.*
1884	*d*	Kemp, John, 46, *Cannon-street, E.C.*
1884	*c d*	*Kennedy, Sir Charles Malcolm, K.C.M.G., C.B., 4, *Louisa-terrace, Exmouth, South Devon.*
1886		Kennedy, John Gordon, *Foreign Office, S.W.*
1878		Kennedy, J. Murray, *New University Club, St. James's-street, S.W.*
1881	*c*	*Kennett-Barrington, Sir V. Hunter, M.A., LL.M. 57, *Albert Hall Mansions, S.W.*
1898		Kent, Arthur C., 47, *Buckingham Palace-road, S.W.*
1895		Kenyon, James, M.P., *Walshaw Hall, Bury, Lancashire.*
1883		*Keynes, John Neville, M.A., D.Sc., 6, *Harvey-road, Cambridge.*
1884		Kimber, Henry, M.P., 79, *Lombard-street, E.C.,*
1852		Kimberley, The Right Hon. the Earl of, M.A., P.C., 35, *Lowndes-square, S.W.*

Year of Election.		
1898		King, Arthur William Waterlow, *Orchard House, Gt. Smith-st., Westminster, S.W.*
1883		*King, Bolton, B.A., *Gaydon, Warwick.*
1884		Kirby, Horace Woodburn, F.C.A., 19, *Birchin-lane, E.C.*
1894		Kirkcaldy, William Melville, *Eglinton, Dunedin, Otago, New Zealand.*
1888		*Kitson, Sir James, Bart., M.P., J.P., *Gledhow Hall, Leeds.*
1889		Kloetgen, W. J. H., 34, *Gutter-lane, Cheapside, E.C.*
1878		*Kusaka, Yoshio, *First National Bank, Tokio, Japan.*
1897		Lamperd, Frederick, *Normanville, Constitution-hill, Ipswich.*
1885		Latham, Baldwin, M.Inst. C.E., *Duppas House, Old Town, Croydon.*
1892		Latham, Stanley A., A.C.A., 2, *Hare-court, Temple, E.C.*
1874	*c d p*	Lawes, Sir John Bennett, Bart., LL.D., F.R.S., *Rothamsted-park, St. Albans.*
1897		*Lawrence, Frederick William, B.A., 79, *Lancaster-gate, W.*
1891		Lawrence, James,
1890		Lawson, William Ramage, *Finchley Lodge, North Finchley.*
1883	*d*	*Leadam, Isaac Saunders, M.A., 1, *The Cloisters, Temple, E.C.; and Reform Club, S.W.*
1886		Leathes, Stanley M., *Trinity College, Cambridge.*
1879		*Leete, Joseph, 36, *St. Mary-at-hill, E.C.; and Eversden, S. Norwood-park.*
1877	*c d p*	Lefevre, The Right Hon. George Shaw, M.A., J.P. (*Honorary Vice-President*), 18, *Bryanston-square, W.*
1887		Leitch, Alexander, 17, *King William-street, E.C.*
1895		Leman, Ernest Montague, 31, *Cannon-street, E.C.*

Year of Election.		
1892		Leon, Herbert Samuel, *Bletchley Park, Bletchley, Bucks.*
1888		*Le Poer-Trench, Col. The Hon. W., R.E., J.P., 3, *Hyde Park-gardens, W.*
1887		*Le Roy-Lewis, Herman, B.A., *Westbury House, Petersfield, Hants.*
1898		Leveaux, Arthur Michael, A.I.A., 28, *Abingdon-street, Westminster, S.W.*
1862		Lewis, Robert, 1, *Bartholomew-lane, E.C.*
1888		*Liberty, A. Lasenby, *The Manor House, The Lee, near Gt. Missenden, Bucks.*
1884		*Lines, William Edward, 2, *Essex-court, Temple, E.C.*
1898		Litkie, Valerian A. 48, *Holland-park, W.*
1892		Llewelyn, Sir John T. D., Bart., M.P., *Penllergare, Swansea.*
1879		Lloyd, Wilson, F.R.G.S., *Park Lane House, Wood-green, Wednesbury.*
1888	*c d p*	Loch, Charles S., B.A., *Hedge Row Cottage, Queen Anne's-gardens, Bedford-park.*
1882	*c d p*	*Longstaff, George Blundell, M.A., M.D., F.R.C.P. (*Vice-President*), *Highlands, Putney Heath, S.W.*
1876		*Lornie, John Guthrie, J.P., (*of Birnam and Pitcastle*), *Rosemount, Kirkcaldy, N.B.*
1892	*d*	Lough, Thomas, M.P., 29, *Hyde Park-gate, S.W.*
1886		*Low, Malcolm, 22, *Roland-gardens, S.W.*
1895		Lowe, Thomas Enoch, F.S.A.A., 89, *Darlington-street, Wolverhampton.*
1889		Lowles, John, M.P., *Hill-crest, Darenth-road, Stamford-hill, N.*
1865	*c p*	Lubbock, The Right Hon. Sir John, Bart., M.P., F.R.S. (*Trustee*), *High Elms, Farnborough, Kent.*
1878		Lucas, Sir Thomas, Bart., J.P., 37, *Great George-street, Westminster, S.W.*

Year of Election.		
1875		*Mabson, Richard Rous, 51, *Cannon-street, E.C.*
1873		*Macandrew, William, J.P., *Westwood House, near Colchester.*
1894		Macaulay, Thomas Bassett, *Sun Life Assurance Co. of Canada, Montreal, Canada.*
1891		MacBrayne, John Burns, 17, *Royal Exchange-square, Glasgow.*
1884		McCabe, William, LL.B., F.I.A., *Drawer* 2,591, *Toronto, Canada.*
1888		McCankie, James, 63, *George-street, Edinburgh.*
1867		M'Clean, Frank, *Rusthall House, Tunbridge Wells.*
1892		McCleery, James C., *Old Bank Chambers*, 8, *Park Row, Leeds.*
1897		MacDonald, Mrs. Margaret Ethel, 3, *Lincoln's Inn Fields, W.C.*
1898		*Macdonald, Robert Alexander, *Royal Bank of Scotland, Edinburgh.*
1872	*c d p*	MACDONELL, JOHN, C.B., LL.D. (*Vice-President*), *Room* 183, *The Royal Courts of Justice, W.C.*
1873		*McEwen, Laurence T., *c/o. R. A. McLean*, 1, *Queen Victoria-st., E.C.*
1886		*Mackenzie, Colin, F.R.G.S.,
1878		McKewan, William, *Elmfield, Bickley, Kent.*
1876		*McLean, Robert Allan, F.R.G.S., 1, *Queen Victoria-street, E.C.*
1863		*Maclure, Sir John William, Bart., M.P., J.P., D.L., *Carlton Club; The Home, Whalley Range, Manchester.*
1888	*d*	McNiel, Henry, 4, *Great George-street, S.W.*
1875		Macpherson, Hugh Martin, F.R.C.S. (*Inspector-General*), 6, *Arlington-street, S.W.*
1882		MacRosty, Alexander, *West Bank, Esher.*
1891		Maidment, Thomas, *Insurance Chambers, Southsea.*
1887		Malleson, Frank R., *Dixton Manor House, Winchcombe, Cheltenham.*
1884		*Manson, Frederick William, *Wellfield, Muswell Hill, N.*
1888		Manuel, James, *c/o The London and Provincial Bank, Cardiff.*

Year of Election.		
1877		*Maple, Sir John Blundell, Bart., M.P., 8, *Clarence-terrace, Regent's-park, N.W.*
1880	*d p*	*Marshall, Professor Alfred, M.A., *Balliol Croft, Madingley-road, Cambridge.*
1894		Marshall, David, *P.O. Box* 327, 4, *Equitable Buildings, Durban, Natal*
1887		Marshall, W. Bayley, M.Inst.C.E., M.Inst.M.E., *Struan, Richmond Hill, Edgbaston, Birmingham.*
1887		Martin, James, 4, *King-street, Cheapside, E.C.*
1872	*c d p*	*Martin, Richard Biddulph, M.A., M.P. (*Treasurer*), 10, *Hill-street, Berkeley-square, W.*
1898		Martineau, George, F.C.S., *Gomshall Lodge, Gomshall, Guildford.*
1884		Mason, William Arthur, 31*a*, *Colmore-row, Birmingham.*
1898		Massingberd, Stephen, B.A., *Gunby Hall, Burgh, Lincolnshire.*
1875		*Mathers, John Shackleton, *Hanover House, Leeds, Yorkshire.*
1883	*d*	Mathieson, Frederic Coxhead, *Beechworth, Hampstead, N.W.*
1882		Medhurst, John Thomas, F.S.A.A., *City of London College, White-street, Moorfields, E.C.*
1853		*Meikle, James, F.I.A., 6, *St. Andrew's-square, Edinburgh.*
1884		Merton, Zachary, *c/o H. R. Merton & Co., Ltd.*, 2, *Metal Exchange Buildings, E.C.*
1889		Mills, Major Henry Farnsby,
1897		Milne, C. Williamson, 51, *Linden-gardens, Notting-hill, W.*
1892	*c d*	Milner, His Excellency Sir Alfred, G.C.M.G., K.C.B., M.A., *Government House, Cape Town.*
1882	*p*	Milnes, Alfred, M.A., 44, *Goldhurst-terrace, S. Hampstead, N.W.*
1895		Milton, Viscount, M.P., *Carnew Castle, co Wicklow, Ireland.*
1874		*Mocatta, Frederick D., F.R.G.S., 9, *Connaught-place, W.*
1878		Moffat, Robert J., *Bank House, Cambridge.*
1888	*d*	*Molloy, William R. J., M.R.I.A. (*National Education Board*), 78, *Kenilworth-square, Rathgar, Dublin.*

Year of Election.		
1887		Moore, Arthur Chisholm, 23, *Essex-street, Strand, W.C.*
1874		Moore, Charles Rendall, 137, *Brockley-road, Lewisham-high-road, S.E.*
1878		*Moore, John Byers Gunning, *Loymount, Cookstown, Ireland.*
1893	*d*	Morgan, Percy Charlton, 5, *Victoria-street, S.W.*
1874		*Morris, James, M.D., F.R.C.S., 13, *Somers-place, Hyde-park-square, W.*
1888		Morris, John (17, *Throgmorton-avenue, E.C.*), 34, *Hyde-park-square, W.*
1891	*c d p*	Morrison, Rev. William Douglas, LL.D., 2, *Embankment-gardens, Chelsea, S.W.*
1885		*Mosley, Tonman, *Bangors, Iver, Uxbridge.*
1886		Mowbray, Robert Gray Cornish, 10, *Little Stanhope-street, S.W.*
1886	*d*	Moxon, Thomas B., *Lancashire and Yorkshire Bank, King-street, Manchester.*
1889		Muir, Robert, junr., *Clydesdale, Wolseley-road, Crouch-end, N.*
1883		Muirhead, Henry James, *Fairfield, Hythe, Kent; and Reform Club, S.W.*
1880	*d*	Mulhall, Michael George, *Killiney Peak, Dublin.*
1897	*d*	Mullins, George Lane, M.A., M.D., *Murong, Albion-street, Waverley, Sydney, N.S.W.*
1891	*d*	Murphy, Shirley Foster, M.R.C.S., 22, *Endsleigh-street, Tavistock-square, W.C.*
1878		Murray, Adam, *Hazeldean, Kersal, Manchester.*
1892		Naoroji, Dadabhai, *Washington House*, 72, *Anerley-park, S.E.*
1889		Nash, William, M.D., M.R.C.S. (*Surgeon-Major-General*). *Royal Victoria Hospital, Netley, nr. Southampton.*
1878		*Nathan, Henry,

Year of Election.		
1869	*c d p*	NEISON, FRANCIS GUSTAVUS PAULUS, F.I.A., 93, *Adelaide-road, South Hampstead.*
1898		Nelson, Charles Hewetson, A.S.A.A., 22, *Lord-street, Liverpool.*
1895		Nesbitt, Thomas Huggins (*Vestry Clerk*), *Mount-street, Grosvenor-square, W.*
1897	*d*	Neumann, Joseph Oscar, 139, *Salisbury-court, Fleet-street, E.C.*
1877		Nevill, Charles Henry, 11, *Queen Victoria-street, E.C.*
1894		Newey, William Lewis, F.S.A.A., 39, *Temple-row, Birmingham.*
1889	*d p*	Newsholme, Arthur, M.D., 11, *Gloucester-place, Brighton.*
1895	*c*	*NICHOLSON, CHARLES NORRIS, 35, *Harrington-gardens, South Kensington, S.W.*
1878	*d p*	Nicholson, Professor J. Shield, M.A., D.Sc., *University of Edinburgh.*
1858	*d*	Nightingale, Miss Florence, 10, *South-street, Park-lane, W.*
1871		*Noble, Benjamin, F.R.A.S., *Westmorland House, Low Fell, Gateshead.*
1877	*d*	Norman, General Sir Henry Wylie, K.C.B., G.C.M.G. (*Agent-General for Queensland*), 85, *Onslow-gardens, S.W.*
1889		Northampton, The Most Hon. the Marquess of, 44, *Lennox-gardens, S.W.*
1878		Northbrook, The Right Hon. the Earl of, G.C.S.I., D.C.L., 4, *Hamilton-place, Piccadilly, W.*
1888		Oakley, Sir Henry (*General Manager, G.N.R.*), 37, *Chester-terrace, Regent's-park, N.W.*
1898		O'Connor, Percival C. Scott, *Chapra, Bengal, India.*
1893		O'Connor, Vincent C. Scott, *Authors' Club*, 3, *Whitehall-court; and c/o W. Watson & Co.*, 7, *Waterloo-place, S.W.*
1880		*Oelsner, Isidor,
1885	*c d p*	Ogle, William, M.A., M.D., F.R.C.P., &c., 10, *Gordon-street, Gordon-square, W.C.*

Year of Election.		
1885	*d*	*Oldham, John, *River Plate Telegraph Company, Montevideo.*
1884		Oldroyd, Mark, M.P., *Hyrstlands, Dewsbury, Yorkshire.*
1896		Olney, George Washington, LL.B., 58, *William-street, New York City, U.S.A.*
1892	*c*	Onslow, The Right Hon. the Earl of, G.C.M.G., *Clandon-park, Guildford, Surrey.*
1878		Oppenheim, Henry, 16, *Bruton-street, Bond-street, W.*
1877		Ormond, Richard, 24, *Grainger-street West, Newcastle-on-Tyne.*
1894	*d*	Owen, Edgar Theodore, *Registrar of Friendly Societies, Perth, W. Australia.*
1887	*d*	Owen, Evan F., A.I.A., *Actuary for Friendly Societies, Melbourne, Victoria.*
1887	*d*	*Page, Edward D. (*Box* 3382), *c/o Faulkner, Page, & Co., New York City, U.S.A.*
1886		Pain, James, *St. Mary's-street, Ely.*
1866	*c d p*	*Palgrave, Robert Harry Inglis, F.R.S., *Belton, Great Yarmouth, Norfolk.*
1888		Pannell, William Henry, *Library-chambers, Basinghall-street, E.C.*
1878		Park, David Francis, C.A., F.F.A., A.I.A., 39, *Lombard-street, E.C.*
1887		Parker, Archibald, *Camden-wood, Chislehurst, Kent.*
1878		Parry, Thomas, *Grafton-place, Ashton-under-Lyne.*
1883		Paterson, John, 1, *Walbrook, E.C.*
1888		Pattullo, James Durie, 71, *King William-street, E.C.*
1877		Paul, Henry Moncreiff, 12, *Lansdowne-crescent, Notting-hill, W.*
1878		Paulin, David, 6, *Forres-street, Edinburgh.*
1893		Payne, Alexander William, F.C.A., 70, *Finsbury-pavement, E.C.*

Year of Election.		
1884		*Peace, Sir Walter, K.C.M.G., 64, *Victoria-street, Westminster, S.W.*
1880		*Pease, Sir Joseph Whitwell, Bart., M.P., *Hutton Hall, Gisborough, Yorks.*
1895		Peixotto, M. Percy (*U.S. Equitable Life Office*), 36, *Avenue de l'Opéra, Paris.*
1891	*d*	Penn-Lewis, William, 48, *Springfield-road, Leicester.*
1894	*d*	Perris, George Herbert, *Lucien-road, Tooting Common, S.W.*
1890		Peters, John Wyatt, *The Gables, Grove-road S., Southsea.*
1883		Petheram, Frederick William, F.C.A., 61, *Gracechurch-street, E.C.*
1886		Peto, Sir Henry, Bart., M.A., *Chedington Court, Misterton, Crewkerne, Somersetshire.*
1887		Phelps, Lieut.-General Arthur, 23, *Augustus-road, Edgbaston, Birmingham.*
1886	*d*	*Phelps, The Rev. Lancelot Ridley, M.A., *Oriel College, Oxford.*
1895		Phillips, Robert Edward (A.M.Inst.C.E.), 70, *Chancery-lane. E.C.*
1871	*d*	*Pickering, John, F.R.G.S., F.S.A., 86, *Thicket-road, Anerley, S.E.*
1898		Pietersen, James Frederick Gerhard, L.R.C.P., M.R.C.S., *Ashwood House, Kingswinford, Dudley.*
1878		*Pim, Joseph Todhunter, *Rinnamara, Monkstown, County Dublin.*
1886		Pink, J. Francis, 62, *Chandos-street, Strand. W.C.*
1877		Pirbright, The Right Hon. Lord, *Carlton Club, Pall Mall, S.W.*
1890	*c d*	Pittar, Thomas J., *H.M. Custom House, E.C.*
1881		Planck, Charles, M.R.C.S. (*Deputy Surgeon-General*),
1883	*d*	Platt, James, *Rookwood, Hampstead, N.W.*
1895		Platt-Higgins, Frederick, M.P., *Homeleigh, Bowdon, Cheshire.*
1861	*c d*	Plowden, Sir Wm. Chicele, K.C.S.I., 5, *Park-cres., Portland-place, W.; and Aston Rowant House, Tetsworth, Oxon.*
1888		Pollard, James, J.P., *Chamber of Commerce, Edinburgh.*
1884		Polson, John, *West Mount, Paisley, N.B.*

Year of Election.		
1896		*Pontifex, Bryan, 116, *St. Paul's-road, Highbury, N.*
1891		Pope, Henry Richard, *Iddesleigh Mansions, Westminster, S.W.*
1891		Potter, Henry, 222, *Queen's-road, New Cross Gate, S.E.*
1879	*c*	*Powell, Sir Francis Sharp, Bart., M.P., *Horton Old Hall, Bradford; and* 1, *Cambridge-square, Hyde-park, W.*
1895		Powell, Thomas Edmund, *Oakridge, Dorking.*
1871		Power, Edward, 16, *Southwell-gardens, South Kensington, S.W.*
1877		*Prance, Reginald Heber, *Frognal, Hampstead, N.W.*
1877	*d*	Praschkauer, Maximilian, 109, *Fenchurch-street, E.C.*
1867		*Pratt, Robert Lindsay, 80, *Bondgate, Darlington.*
1896		Pretyman, Captain Ernest George, M.P., *Orwell-park, Ipswich.*
1887	*c d p*	*Price, L. L., M.A., *Oriel College, Oxford.*
1877	*c d p*	Price-Williams, Richard, M.Inst.C.E., 32, *Victoria-street, S.W.*
1887	*c d p*	Probyn, Lesley Charles, 79, *Onslow-square, S.W.*
1889		Probyn, Lieut.-Colonel Clifford, 55, *Grosvenor-street, Grosvenor-square, W.*
1884		*Proctor, William, *Bankfield, Upper Chorlton-road, Manchester.*
1886		Provand, Andrew Dryburgh, M.P., 2, *Whitehall-court, S.W.*
1896		Pryor, Edward Thomas, 23, *Fore-street, E.C.*
1871	*c*	Puleston, Sir John Henry, 2, *Bank-buildings, Princes-street, E.C.*
1886		Pulley, Sir Joseph, Bart., 90, *Piccadilly, W.*
1883		Rabbidge, Richard, F.C.A., 32, *Poultry, E.C.*
1872	*d p*	*Rabino, Joseph, *Chief Manager, Imperial Bank of Persia, Teheran.*

Year of Election.		
1888		*Radcliffe, Sir David, J.P., *Rosebank, Knowsley, Prescot.*
1858		*Radstock, The Right Hon. Lord, *Mayfield, Woolston, Southampton.*
1888	*d*	Rae, George, *Redcourt, Birkenhead.*
1885	*c d*	Rae, John, M.A., 37, *Werter-road, Putney, S.W.*
1887	*d p*	Raffalovich, His Excellency Arthur, 19, *Avenue Hoche, Paris.*
1897		Rai, Bihari Lal, F.R.S.L. (*Saugor, C.P., India*), *c/o W. Watson & Co., 7, Waterloo-place, S.W.*
1860		Ramsay, Alexander Gillespie, F.I.A., *Canada Life Ass. Co., Hamilton, Canada, West.*
1885		Randell, James S., 19, *Alfred-street, Bath.*
1880	*c*	Rankin, Sir James, Bart., M.P., 35, *Ennismore-gardens, Prince's-gate, S.W.*
1897		Ranson, Albert, 32, *Westgate-street, Ipswich.*
1884		Raphael, Alfred, 34, *Warwick-road, Maida Vale, W.*
1878		Rathbone, William, *Greenbank, Liverpool, E.*
1884		*Ravenscroft, Francis, *Birkbeck Bank, Chancery-lane, W.C.*
1874	*c d p*	*Ravenstein, Ernest George, F.R.G.S., 2, *York-mansions, Battersea-park, S.W.*
1886		Rawlins, Frederick, *Southport, Queensland.*
1877		*Rawlins, Thomas, 45, *King William-street, E.C.*
1895		Rawlinson, Albert, 3/5, *Garstin's Place, Calcutta.*
1895		Rawson, Cecil Frank, B.A., 1, *Philbeach-gardens, Earl's Court, S.W.*
1835	*c d p*	Rawson, Sir Rawson W., K.C.M.G., C.B. (*Honorary Vice-President*) 68, *Cornwall-gardens, Queen's-gate, S.W.*
1893		Rea, Charles Herbert Edmund, 223, *Norwood-road, Herne Hill, S.E.*
1889		*Reed, Thomas, F.C.A., 63, *King-street, South Shields.*
1888	*d*	Reid, Herbert Lloyd, *Ardentinney, Balham Park-road, Balham, S.W.*
1898		Renwick, William George, *Ferndale, Leighton-road, Southville, Bristol.*
1888	*c d p*	Rew, Robert Henry, 14, *Castletown-road, West Kensington, W.*

Year of Election.		
1886		Rhens, Robert, 20, *Fassett-square, Dalston, N.E.*
1888		Rhodes, George Webber, 131, *Wool Exchange, E.C.*
1895		Richards, Roger C. (*Inner Temple*), *Crayford House, Honor Oak-road, S.E.*
1896		Richards, Samuel Norman, 583, *Seven Sisters-road, Tottenham.*
1888		Richardson, J. H., 8, *Finch-lane, Cornhill, E.C.*
1895		Richardson, Thomas, M.P., *Kirklevington Grange, Yarm, Yorks.*
1873		Ripon, The Most Hon. the Marquess of, K.G., F.R.S., &c., 9, *Chelsea Embankment, S.W.*
1898		Ritchie, Frank Baillie, *Burglary Insurance Security Co.*, 63, *St. James's-street, S.W.*
1892		Rivington, Francis Hansard, 44, *Connaught-square, W.*
1882		Roberts, Edward, F.R.A.S. (*Nautical Almanac Office*), 3, *Verulam-buildings, Gray's Inn, W.C.*
1890		Roberts, Sir William, M.D., F.R.S., 8, *Manchester-square, W.*
1894	*d p*	Robertson, James Barr, 3, *Whitehall-court, S.W.*
1886	*d*	Roechling, Herman Alfred, A.M. Inst. C.E., 14, *Market-street, Leicester.*
1880		*Ronald, Byron L., 14, *Upper Phillimore-gardens, W.*
1873	*c*	*Rosebery, The Right Hon. the Earl of, LL.D., F.R.S., 38, *Berkeley-square, W.*
1892		Ross, Charles Edmonstone, F.S.A.A., *Examiner of Accts., Guaranteed Rlwys., Bombay.*
1893	*d*	Rothwell, Richard Pennefather (*Editor, Engineering and Mining Journal*), 253, *Broadway, Room* 817, *New York, U.S.A.*
1897		Rothwell, William Thomas, J.P., *Newton Heath, nr. Manchester.*
1898		Rozenraad, Cornelius, 21, *Wimpole-street, W.*
1890		Ruffer, Marc Armand, M.A., M.D., B.Sc., *Medical School, Cairo, Egypt.*
1888		Rusher, Edward Arthur, F.I.A., 142, *Holborn Bars, E.C.*
1886		Russell, Arthur B., A.C.A., 11, *Ludgate hill, E.C.; and* 16, *Dartmouth-park-road, N.W.*

Year of Election.		
1878	*d*	Russell, Richard F., 8, *John-street, Adelphi, W.C.*
1873		Rutherford-Elliot, J. G., *Elphinstone, Tyndall's Park-road, Clifton, Bristol.*
1894	*d*	Sachs, Edwin Otho, 11, *Waterloo-place, Pall Mall, S.W.*
1873		*Salisbury, The Most Hon. the Marquess of, K.G., P.C., F.R.S., 20, *Arlington-street, W.*
1898		Salmon, Richard George, F.I.A., *Sun Life Assurance Society, Threadneedle-street, E.C.*
1875	*d*	*Salomons, Sir David Lionel, Bart., J.P., *Broom-hill, Tunbridge Wells.*
1876		Salt, Thomas, *Weeping Cross, Stafford.*
1892		Samuel, Charles, 176, *Sutherland-avenue, Harrow-road, W.*
1868	*c*	Samuelson, Sir Bernhard, Bart., F.R.S., 56, *Prince's-gate, Hyde-park, S.W.*
1895		Sanger, Charles Percy, B.A., 3, *Hare-court, Inner Temple, E.C.*
1891		*Sarda, Pandit Har Bilas, B.A., M.R.A.S., *Government College, Ajmere, India.*
1895		Satthianadhan, Professor S., M.A., *Presidency College, Madras, India.*
1886	*d p*	Sauerbeck, Augustus, 4, *Moorgate-street-buildings, E.C.*
1893		Saunders, Cecil Roy, F.I. Inst., *Downs House, Eling, Hants.*
1877		Saunders, Charles Edward, M.D., *County Asylum, Hayward's Heath, Sussex.*
1852		Saunders, James Ebenezer, F.G.S., J.P., 4, *Coleman-street, E.C.*
1888		Sawyer, Lucian Willard, 96, *Palmerston-buildings, Bishopsgate-street, E.C.*
1887		*Scarth, Leveson, M.A., *Elms-lea, Cleveland-walk, Bath.*
1883		Schidrowitz, Samuel, 142, *Westbourne-terrace, Hyde Park, W.*
1877		Schiff, Charles, 22, *Lowndes-square, S.W.*

Year of Election.		
1891	*d p*	*Schloss, David F., M.A., *Hill House, Wimbledon.*
1895		Schmidt, Hermann, *Lombard House, George-yd., Lombard-st., E.C.*
1891		Schooling, John Holt, *Fotheringay House, Montpelier-row, Twickenham.*
1895		Schuurman, Willem H. A. Elink, *Oudegracht Tz.* 146, *Utrecht.*
1883		*Schwann, John Frederick, *Oakfield, Wimbledon; & 6, Moorgate-st., E.C.*
1888		Scotter, Si Charles, *Surbiton.*
1887	*c d*	Seaton, Edward, M D., Lond., F.R.C.P., *The Limes, Clapham-common, S.W.*
1880		*Seeley, Sir Charles, Bart., M.P., *Sherwood Lodge, Nottingham.*
1886	*d p*	Seyd, Ernest J. F., 38, *Lombard-street, E.C.*
1873	*d*	Seyd, Richard, 38, *Lombard-street, E.C.*
1894		Shaw, William Arthur, M.A., 3 *and* 4, *Lincoln's Inn-fields, W.C.*
1898		Shaw, William Napier, M.A., F.R.S., *Emmanuel House, Cambridge.*
1896	*p*	Sheppard, William Fleetwood, M.A., LL.M., 2, *Temple-gardens, E.C.*
1898		Sherwell, Arthur, 20, *Endsleigh-terrace, Duke's-road, W.C.*
1885		Sherwin, Joseph Henry, 16, *Whitehall-place, S.W.*
1888		Shillcock, Joshua, M.A., *Bank of England, West Branch, Burlington-gardens, W.*
1871	*d*	Sidgwick, Professor Henry, M.A., *Trinity College, Cambridge.*
1886		Silver, Stephen William, 3, *York-gate, Regent's-park, N.W.*
1878	*d*	Simmonds, G. Harvey, 1, *Whitehall, S.W.*
1892		*Sinclair, Captain John, 101, *Mount-street, Berkeley-square, W.*
1850		Singer, Charles Douglas, *Silverton, Silver-street, Enfield Town.*
1881	*d*	Skrine, Francis Henry B., J.P., 19, *The Grove, Boltons, S.W.*
1888		Slade, Alfred Thomas, *Wardrobe-chambers, Queen Victoria-street, E.C.*
1888		Slade, Francis William, 17, *Victoria-street, Westminster, S.W*

Year of Election.		
1883		Sly, Richard Stevens, J.P., F.R.G.S., *Fern Villa, Queen's-road, New Cross Gate, S.E.*
1869	*d*	Smee, Alfred Hutcheson, M.R.C.S., *The Grange, Wallington, Surrey.*
1898		Smith, Alfred, 97, *Linaker-street, Southport.*
1878		*Smith, Charles, M.R.I.A., F.G.S., Assoc. Inst. C.E., *c/o Sir Henry Gilbert, Harpenden, St. Albans.*
1896		Smith, Edward, 75, *Gore-road, South Hackney, N.E.*
1871		Smith, E. Cozens, 1, *Old Broad-street, E.C.*
1878	*d*	*Smith, George, LL.D., C.I.E., *Serampore House, Napier-road, Edinburgh.*
1889	*d*	Smith, George Armitage, M.A., 26, *Regent's Park-road, N.W.*
1888	*c d*	Smith, H. Llewellyn, M.A., B.Sc., 49, *Beaumont-square, E.*
1877		Smith, Howard S., A.I.A., F.F.A., *Bank-chambers*, 14, *Waterloo-street, Birmingham.*
1891		Smith, James Parker, M.P., *Jordanhill, Partick, N.B.*
1877		Smith, John, 8, *Old Jewry, E.C.*
1883	*c*	Smith, Samuel, M.P., 11, *Delahay-street, Westminster; and Reform Club, S.W.*
1888		Smith, Walter J., *St. Bartholomew's Chmbs.*, 61, *W. Smithfield, E.C.*
1890		Smith, William Alexander, J.P., *Arpafeelie, Moorebank, N.S.W.*
1894		*Smith, The Hon. William Frederick Danvers, M.P., 3, *Grosvenor-place, S.W.*
1894		Smithers, Frederick Oldershaw, 171, *Adelaide-road, Hampstead, N.W.*
1887		Snell, Arthur Henry, 27, *Mincing-lane, E.C.*
1897		Southgate, Henry William, 28, *Springfield-place, Leeds.*
1895		Soward, Alfred Walter, 28, *Therapia-road, Honor Oak, S.E.*
1855	*d*	Sowray, John Russell, 2, *Princes-mansions, Victoria-street, S.W.*
1896		Sparrow, Frederick Syer, *c/o J. Wonfor*, 24, *Yonge-park, Seven Sisters-road, N.*
1889		Speirs, Edwin Robert, 65–67, *Gracechurch-street, E.C.*
1867		*Spencer, Robert James,

Year of Election.		
1892		Spender, John Alfred, M.A., 29, *Cheyne-walk, S.W.*
1897		Spensley, J. Calvert (*Stat. Dept., L.C.C.*), *Leighton Hall, Leighton-crescent, N.W.*
1883		Spicer, Albert, 50, *Upper Thames-street, E.C.*
1898		Spicer, Edward Samuel, 73, *Philbeach-gardens, S.W.; and Reform Club.*
1856	*d*	*Sprague, Thomas Bond, M.A., LL.D., F.I.A., 26, *St. Andrew-square, Edinburgh.*
1882		Stack, Thomas Neville (9, *Crosby-square, E.C.*), 70, *Gloucester-crescent, Regent's-park, N.W.*
1889	*d*	Stanton, Arthur G. (13, *Rood-lane, E.C.*), *Oakfield, Eliot-park, Blackheath, S.E.*
1877		Staples, Sir Nathaniel Alexander, Bart., *Lissan, Cookstown, Tyrone, Ireland.*
1880		Stark, James, 30, *Coleman-street, E.C.*
1880		Stephens, William Davies, J.P. (Alderman), 22, *Percy-gardens, Tynemouth.*
1882		*Stern, Edward D., 4, *Carlton-house-terrace, S.W.*
1885	*d*	Stevens, Marshall, *Bolton Lodge, near Eccles.*
1877		Stone, William Alfred, 90, *Cannon-street, E.C.; and Hayton, Bramley Hill, Croydon.*
1889		Stow, Harry Vane, *National Liberal Club, Whitehall-place, S.W.*
1872	*d*	Strachey, General Sir Richard, R.E., G.C.S.I., F.R.S., 69, *Lancaster-gate, W.*
1893		Strahan, Samuel Alexander Kenny, M.D., *Berry Wood, Northampton.*
1883	*d*	*Strathcona & Mount Royal, The Right Hon. Lord, G.C.M.G. (*High Commissioner for Canada*), 17, *Victoria-street, S.W.*
1880		Strutt, Hon. Frederick, *Milford House, near Derby.*
1891		Stuart, Harold A., *c/o Arbuthnot and Co., Madras, India.*
1884		*Sugden, Richard, *The Farre Close, Brighouse, Yorkshire.*
1895		Sutherland, J. Francis, M.D., 23, *Rutland-square, Edinburgh.*
1881		Sykes, George Samuel, 1, *Grant's-lane, Calcutta, India.*

Year of Election.		
1894	*d*	Tagliaferro, Napoleone, F.R.H.S., *Education Office, Malta.*
1859		*Tait, Patrick Macnaghten, F.R.G.S., 86, *Oakley-street, S.W.*
1889	*d*	Tattersall, William, *Hazelwood, Hale, Cheshire.*
1889		Tayler, Stephen Seaward (Alderman), 151, *Brixton-road, S.W.*
1887	*d*	Taylor, R. Wharely Cooke, *Regent Chambrs.*, 121, *W. Regent-st., Glasgow.*
1888		*Taylor, Theodore Cooke, J.P., *Sunny Bank, Batley, Yorkshire.*
1898		Teasdale, William Alfred, 65, *Newsome-road, Huddersfield.*
1893		Teece, Richard, F.I.A., F.F.A., 87, *Pitt-street, Sydney, N.S.W.*
1884		Tempany, Thomas William, F.R.H.S., 25, *Bedford-row, W.C.*
1888	*d*	Temperley, William Angus, junr., 2, *St. Nicholas-buildings, Newcastle-on-Tyne.*
1888		Theobald, John Wilson, 85, *Palmerston-buildings, E.C.*
1889		Thodey, William Henry, 479, *Collins-street, Melbourne, Victoria.*
1888	*d*	Thomas, David Alfred, M.P., *Llanwern, near Newport, Mon.*
1887		Thomas, John, 18, *Wood-street, E.C.*
1896		Thomas, John Tubb, L.R.C.P. & S., Edin., D.P.H., *Medical Officer of Health, Alliance Chambers, Leicester.*
1879	*d*	Thomas, W. Cave, 47, *Russell-road, W.*
1864		*Thompson, Henry Yates, 19, *Portman-square, W.*
1895		Thomson, David Couper, J.P., *Dundee Courier Office, Dundee.*
1882		Tinker, James, *Hordlecliff, Lymington, Hants.*
1889		Touch, George Alexander, *Eaton Tower, Caterham Valley, Surrey.*
1868		*Treatt, Frank Burford, J.P., *Fernmount, Bellenger River, New South Wales.*
1868		Tritton, Joseph Herbert, 54, *Lombard-street, E.C.*
1890		*Turner, Rev. Harward, M.D., Paris, B.Sc., F.R.M.S.,
1885		Turner, William, *c/o The Librarian, Free Public Library, Trinity-street, Cardiff.*

Year of Election.		
1892		Tyler, Edgar Alfred, 1, *Queen Victoria-street, E.C.*
1841		Tyndall, William Henry, F.I.A., *Morlands, Oxford-road, Redhill.*
1893		Tyrer, Thomas, F.I.C., F.C.S., *Stirling Chemical Works, Stratford, E.*
1877	*c d p*	*Urlin, Richard Denny, 22, *Stafford-terrace, Phillimore-gardens, W.*
1888		Van Raalte, Marcus, 22, *Austin Friars, E.C.*
1890	*d p*	Venn, John, D.Sc., F.R.S., *Caius College, Cambridge.*
1889		Venning, Charles Harrison, 33, *Old Broad-street, E.C.*
1888		Verdin, William Henry, J.P., *Winsford, Cheshire.*
1897	*d*	Verney, Sir Edmund, Bart., F.R.G.S., F.R.M.S., *Claydon House, Winslow, Bucks.*
1894		Verney, Frederick William, 6, *Onslow-gardens, S.W.*
1897		Vernon, Henry H., M.D., F.R.S.Edin., M.O.H., *Shipbrook, Cambridge-road, Southport, Lancs.*
1886	*c*	Verulam, The Rt. Hon. the Earl of, *Sopwell, St. Albans.*
1876		Vigers, Robert, 4, *Frederick's-place, Old Jewry, E.C.*
1885		Vincent, Frederick James, A.I.A., 38, *Queen's-road, South Hornsey, N.*
1877	*d*	Vine, Sir John Richard Somers, C.M.G., *Imperial Institute, S.W.*

Year of Election.		
1890	*d*	Walford, Ernest L., 2, *Shorter's-court, E.C.*
1868		Wallis, Charles James, 14, *Russell-square, W.C.*
1880	*d*	Wallis, E. White, 76, *Carlton-hill, N.W.*
1897		Walton, J. Herbert, *St. Ronan's, Teddington.*
1893		Ward, William Cullen, F.S.I.A., 17, *O'Connell-street, Sydney, N.S.W.*
1888		Warren, Reginald Augustus, J.P., *Preston-place, near Worthing.*
1888		Wartnaby, William Wade, *Market Harborough, Leicestershire.*
1865		Waterhouse, Edwin, B.A., A.I.A., F.C.A., 44, *Gresham-street, E.C.*
1886		Waters, Alfred Charles, *General Register Office, Somerset House, W.C.*
1892		Wates, Charles Marshall, 9, *Dennington-pk.-mansions, West-end-lane, N.W.*
1894		Watson, Thomas Roberts, 14, *Station-road, Prescot.*
1883		Watson, T. Wilkinson, 183, *West George-street, Glasgow.*
1883		Watson, William Livingstone, *Reform Club Chambers*, 105, *Pall Mall, S.W.*
1885	*d*	*Watt, William, 17, *Queen's-road, Aberdeen.*
1888		Webb, Henry Barlow, *Holmdale, Dorking.*
1893	*d*	Weedon, Thornhill, *Bryn-Mawr, Woolloongabba, Brisbane, Queensland.*
1873	*c*	*Welby, The Right Hon. Lord, G.C.B., 11, *Stratton-street, Piccadilly, W.*
1874		Welch, Charles, F.S.A., *Guildhall, E.C.* (*Representing the Library Committee of the Corporation of the City of London.*)
1889		Wells-Smith, Henry, A.C.A., 70, *Queen-street, Sheffield.*
1855	*c d p*	Welton, Thomas Abercrombie, 38, *St. James's-road, Brixton, S.W.*
1879		Wenley, James Adams, *Bank of Scotland, Bank-street, Edinburgh.*
1879		*Westlake, John, QC., LL.D., *The River House*, 3, *Chelsea Embankment, S.W.*
1882		*Whadcoat, John Henry, F.C.A., *Poole, Dorset.*

Year of Election.		
1883		*Whadcoat, William Edward, 54, *Carleton-road, Tufnell-park, N.*
1878		Wharton, James, *Edgehill, Netherhall-gds., FitzJohn's-av., N.W.*
1887		Whinney, Frederick, 8, *Old Jewry, E.C.*
1859		Whitbread, Samuel (*Southill-park, Biggleswade, Beds.*), 10, *Ennismore-gardens, Princes-gate, S.W.*
1887		*White, The Rev. George Cecil, M.A., *Nursling Rectory, Southampton.*
1863		White, Leedham, 16, *Wetherby-gardens, South Kensington, S.W.*
1888	*d*	Whitehead, Sir James, Bart., J.P., D.L. (Alderman), *Wilmington Manor, near Dartford.*
1895	*d*	Whitehead, The Hon. Thomas Henderson, M.L.C., *Chartered Bank of India, &c., Hong Kong.*
1892	*d*	Whitelegge, B. Arthur, M.D., 3, *Edwardes-place, Kensington, W.*
1884	*d*	Whiteley, William, *Westbourne-grove, Bayswater, W.*
1895		Whittuck, Edward Arthur, M.A., B.C.L., 77, *South Audley-street, W.*
1879		*Whitwill, Mark, J.P., *Bristol.*
1891		Wigham, Matthew Thomas, A.S.A.A., 34 *and* 36, *Gresham-street, E.C.*
1884		Wightman, Charles, 1, *Fenchurch-avenue, E.C.*
1895		Wilenkin, Gregory, 7, *Wetherby-gardens, South Kensington, S.W.*
1893	*p*	Wilkinson, Rev. John Frome, M.A., *Barley Rectory, Royston, Herts.*
1875		Wilkinson, Thomas Read, *Vale Bank, Knutsford, Cheshire.*
1860		Willans, John Wrigley, *Mercury Office, Leeds.*
1896		*Williams, Major Charles Woolmer, *City Carlton Club, E.C.*
1897		Williams, Daniel Thomas, *P.O., Blaenclydach, Llynypia, R.S.O., Glam.*
1894		Williams, Edward Frederick, *Joint Stock Bank, Halifax.*
1897		*Williams, Ernest E., *Egmont Lodge, Church-row, Old Fulham, S.W.*
1864		Williams, Frederick Bessant, F.S.A. (Scot.), 19, *Haymarket, S.W.*
1895		Williams, Harry Mallam, F.S.A. (Scot.), *Tilehurst, Priory Park, Kew.*
1881		*Williams, Henry Maunder,

Year of Election.			
1888			*Williams, Robert, M.P., 20, *Birchin-lane, E.C.*
1895			*Willis, J. G., B.A., *Board of Trade, Whitehall Gardens, S.W.*
1898			Wilson, Alexander Johnstone, *Annandale, Atkin's-road, Clapham Park, S.W.*
1891			Wilson, Henry Joseph, M.P., *Osgathorpe Hills, Sheffield.*
1898			Wilson, Henry Wrigley, 144, *Elgin Avenue, W.*
1884			Wilson, James (*Deputy Commissioner*), *Rawalpindi, Punjab, India.*
1874	*d*		*Wilson, Robert Porter, 5, *Cumberland-terrace, Regent's-park, N.W.*
1897			Wood, George Henry, 15, *Queen-street, Eastville, Bristol.*
1897			Woodd, Basil Aubrey Hollond, 25, *Tite-street, Chelsea, S.W.*
1887			Woodhouse, Coventry Archer, 30, *Mincing-lane, E.C.*
1890			Woollcombe, Robert Lloyd, LL.D., F.I. Inst., &c., 14, *Waterloo-road, Dublin.*
1890			Worroll, Charles, *Colonial Mutual Life Office, Adderley-street, Cape Town.*
1895			Worsfold, Edward Mowll, *Market Square, Dover.*
1878			Worsfold, Rev. John Napper, M.A., *Haddlesey Rectory, near Selby, Yorkshire.*
1887			Worthington, A. W., B.A., *Old Swinford, Stourbridge.*
1895			Yanagisawa, Count Yasutoshi, *Mariannengasse* 14, *Thür* 10, *Vienna IX.*
1886	*c*	*p*	Yerburgh, Robert Armstrong, M.P., 25, *Kensington Gore, S.W.*
1888			*Yglesias, Miguel, 2, *Tokenhouse-buildings, E.C.*
1877			*Youll, John Gibson, *Jesmond-road, Newcastle-on-Tyne.*
1897			Young, Norwood Crichton, 17, *Avenue-road, Regent's-park, N.W.*

Year of Election.			
1898			Young, Sydney, *The Corn Exchange, Mark-lane, E.C.*
1895	*c*	*p*	Yule, George Udny, *University College, Gower-street, W.C.; and* 13, *Addison Court-gardens, Blythe-road, West Kensington, W.*

*** *The Executive Committee request that any inaccuracy in the foregoing list may be pointed out to the* Assistant Secretary, *and that all changes of address may be notified to him, so that delay in forwarding communications and the publications of the Society may be avoided.*

HONORARY FELLOWS.

HIS ROYAL HIGHNESS THE PRINCE OF WALES, K.G.,

Honorary President.

Year of Election.		
		Argentine Republic.
1890	*d*	DR. FRANCISCO LATZINA, **Calle Maipu, 982, Buenos Ayres.** [redacted] Director General of Statistics; Doctor *honoris causa* of the Faculty of Physical and Mathematical Sciences of the University of Cordoba; Knight of the Italian Order of S.S. Maurice and Lazare; Officer of the Academy of France; Member of the National Academy of Sciences, of the International Statistical Institute, of the Geographical and Statistical Societies of Paris, of the Society of Commercial Geography of Paris, and Corresponding Member of the National Historical Academy of Venezuela.
		Austria-Hungary.
1890	*d*	DR. KARL THEODOR VON INAMA-STERNEGG, **Vienna.** Doctor of Political Economy; Member of the Austrian House of Lords; President of the Imperial and Royal Central Statistical Commission; Professor at the University of Vienna.
1893	*d*	DR. JOSEPH DE JEKELFALUSSY, **Budapest.** Doctor *Juris;* Advocate; Chief of the Royal Hungarian Statistical Bureau; Ministerial Councillor; Knight of the Order of Francis Joseph; Second Vice-President of the Royal Hungarian Statistical Council; External Member of the Committee of Examiners for Political Sciences; Corresponding Member of the Hungarian Academy of Sciences.
1893	*d*	DR. FRANZ RITTER VON JURASCHEK, **Kärnthnerstrasse, 55, Vienna.** Doctor *Juris et Philosophiæ;* "K.K. Regierungsrath;" Member and Secretary of the Imperial and Royal Central Statistical Commission; Professor at the University of Vienna; Professor of Public Law and of Statistics at the Military Academies, Vienna; Knight of the Austrian Order of the Iron Crown (3rd Class); Officer of the Order of the Crown of Italy; Member of the Permanent Commission for Commercial Values; of the International Statistical Institute; and of the British Economic Association.

Year of Election.		
		Austria-Hungary—*Contd.*
1893	*d p*	JOSEPH KÖRÖSI, **Budapest.** Director of the Municipal Statistical Bureau of Budapest; *Docent* at the University of Budapest; President of the Municipal Statistical Committee; Knight of Several Orders; Member of the Statistical Commissions of Hungary, Belgium, and Nijni-Novgorod; Honorary Member of the American Statistical Associations; Member of the Hungarian Academy of Science, of the International Statistical Institute, of the Statistical Societies of Manchester and Paris, of the British Economic Association, and of several other learned Societies.
1877	*d*	MAX WIRTH, **VI Dreihufeisengasse, Vienna.** Economist; formerly Director of the Federal Statistical Bureau of Switzerland; Co-Editor of the "Neue Freie Presse."
		Belgium.
1879	*d*	DR. EUGÈNE JANSSENS, **Rue du Lombard, 21, Brussels.** Doctor of Medicine; Chief Inspector of the Board of Health of the City of Brussels; President of the Federal Committee of Health of the Brussels District; Member of the Central Statistical Commission, of the Superior Council of Health, of the Royal Academy of Medicine, and of the Local Medical Commission; Officer of the Belgian Order of Leopold and of the Italian Order of SS. Maurice and Lazare; Knight of the French Legion of Honour; Civic Cross of the 1st Class; Officer of the Academy of France; Associate of the Statistical Society of Paris and of the International Statistical Institute.
		China.
1890	*d*	SIR ROBERT HART, Baronet, G.C.M.G., LL.D., **Peking.** Inspector-General of Imperial Maritime Customs, China.
		Denmark.
1878	*d*	VIGAND ANDREAS FALBE-HANSEN, **Copenhagen.** Professor of Political Economy at the University of Copenhagen.
1852	*d*	DR. PETER ANTON SCHLEISNER, **Frederiksberg, Copenhagen.** Doctor of Medicine, State Councillor; Knight and Bachelor of the Order of the "Dannebroge," and Knight of the Swedish Order of the North Star; President of the Royal Danish Institute of Vaccination; Member of the Royal Danish General Board of Health.

Year of Election		
		France.
1880	*d p*	DR. JACQUES BERTILLON, **1, Avenue Victoria, Paris.** Doctor of Medicine; Chief of the Statistical Department of the City of Paris; Member of the Superior Council of Statistics; of the Consultative Committee of Public Hygiene of France; and of the Statistical Society of Paris, &c.
1856	*d*	MAURICE BLOCK, **63, Rue de l'Assomption, Paris.** Knight of the Legion of Honour, and of Orders of Sweden, Russia, Prussia, Bavaria, Austria-Hungary, Greece, Italy, and Portugal; Member of the Institute of France, of the Superior Council of Statistics, of the International Statistical Institute, of the Society of Political Economy of Paris, and of many Academies and Scientific Societies.
1879	*d*	DR. ARTHUR CHERVIN, **82, Avenue Victor Hugo, Paris.** Doctor of Medicine and Surgery; Director of the Paris Institute for Stammerers; Member of the Superior Council of Statistics and of the International Statistical Institute, &c.
1897	*d*	JEAN JACQUES ÉMILE CHEYSSON, **4, Rue Adolphe Yvon, Paris.** Inspector-General of Bridges and Highways; Member of the International Statistical Institute; Past President of the Statistical Society of Paris; late Director of the Creusot Iron Works, of Machinery at the Paris Exhibition of 1867, and of Graphic Statistics for the Ministry of Public Works.
1878	*d*	MAXIMIN DELOCHE, **5, Rue Herschel, Paris.** Honorary Director of the General Statistics of France; Commander of the Legion of Honour; Officer of the Order of Public Instruction; Commander of the Austrian Order of Francis Joseph; Member of the Institute of France, and of several learned Societies.
1890	*d p*	ALFRED DE FOVILLE, **Hotel des Monnaies, Paris.** Master of the Mint; Professor at the National Conservatoire of Arts and Trades (Chair of Industrial Economy and Statistics); Officer of the Legion of Honour; Laureate of the Institute of France; Past President of the Statistical Society of Paris; Member of the International Statistical Institute and of the Superior Council of Statistics.
1870	*d*	DR. CLÉMENT JUGLAR, **167, Rue St. Jacques, Paris.** Member of the Institute of France; Past President of the Statistical Society of Paris; Vice-President of the Society of Political Economy of Paris.

Year of Election.

France—*Contd.*

1860 *p* PIERRE ÉMILE LEVASSEUR, **26, Rue Monsieur le Prince, Paris.**
Member of the Institute of France; Professor at the College of France and at the Conservatoire of Arts and Trades; President of the Statistical Commission for Primary Instruction; Past President of the Statistical Society of Paris; Vice-President of the International Statistical Institute, of the Superior Council of Statistics, and of the Society of Political Economy, &c.

1887 DANIEL WILSON, **2, Avenue d'Jéna, Paris.**
Deputy; Ex-Under-Secretary of State; Past President of the Statistical Society of Paris.

1876 *d* THE PRESIDENT (for the time being) OF THE STATISTICAL SOCIETY OF PARIS, **28, Rue Banton, Paris.**

Germany.

1871 *d* SIR HENRY PAGE-TURNER BARRON, Baronet, C.M.G.
Late British Minister-Resident to the King of Wurttemberg.

1890 *d* KARL JULIUS EMIL BLENCK, **Lindenstrasse, 28, Berlin, S.W.**
"Geheimer Ober-Regierungsrath;" Director of the Royal Statistical Bureau of Prussia, also Member of the Prussian Central Statistical Commission and of the Central Board of Control of the Survey of Prussia; Honorary Member or Member of several learned Societies.

1896 *d* DR. CARL VICTOR BÖHMERT, **Hospitalstrasse, 4, Dresden.**
"Geheimer Regierungsrath;" Doctor *Juris;* Late Director of the Statistical Bureau of Saxony; Professor of Political Economy and Statistics in the Polytechnical High School of Dresden.

1877 *d* DR. GEORG VON MAYR, **Georgenstrasse, 38, Munich.**
Ex-Under Secretary of State in the Imperial Ministry for Alsace-Lorraine; formerly Director of the Royal Statistical Bureau of Bavaria; Honorary Member of the International Statistical Institute; Honorary Professor at the University of Strassburg; Associate of the Statistical Society of Paris.

1893 *d* DR. FRIEDRICH WILHELM HANS VON SCHEEL, **Lützow-Ufer, 6/8, Berlin, W.**
"Kaiserlicher Geheimer Regierungsrath;" Doctor *Juris et philosophiæ;* Director of the Imperial Statistical Bureau of the German Empire; formerly Professor of Political Economy and Statistics at the University of Bern; Honorary Member of the Statistical and Social Inquiry Society of Ireland.

Year of Election.		Germany—*Contd.*
1860		DR. GEORG KARL LEOPOLD SEUFFERT, **Maximilian-splatz, Nr. 9/3, Munich.** Formerly Chief Inspector and Director of the Royal Custom-House at Simbach; Knight of the Bavarian Order of St. Michael 1st Class; Corresponding Member of the Central Statistical Commission of Belgium; Member of the "Freies Deutsches Hochstift zu Frankfurt a/M."
1897		DR. ADOLPH WAGNER, Ph.D., **51, Lessingstrasse, Berlin, N.W.** Professor of Political Economy at the University of Berlin; Member of the Statistical Bureau of Prussia.
1876	*d*	THE PRESIDENT (for the time being) OF THE GEOGRAPHICAL AND STATISTICAL SOCIETY OF FRANKFORT, **Stadtbibliothek, Frankfort.**

Italy.

1879	*d*	DR. GEROLAMO BOCCARDO, **Piazzia Santi Apostoli, 74, Rome.** Senator; Councillor of State; Doctor of Laws; late Professor at the University and at the Superior Naval School of Genoa; Grand Officer of the Orders of SS. Maurice and Lazare, and of the Crown of Italy; Knight of the Order of Civil Merit of Savoy; Member of the Academy "dei Lincei," of the Academy of Naples, of the Institutes of Science of Milan, Venice, and Palermo, of the Cobden Club, of the International Statistical Institute, of the Academy of Madrid, and of the Deputation of National History, &c.
1874	*d*	DR. LUIGI BODIO, **193, Via Torino, Rome.** Doctor of Laws; Professor of Industrial Legislation and of Statistics at the Engineering College, Rome; Councillor of State; President of the Royal Board of Statistics of the Kingdom of Italy; Secretary of the International Statistical Institute; Grand Officer of the Order of SS. Maurice and Lazare; Knight of the Order of Civil Merit of Savoy; Correspondent of the Institute of France (Academy of Moral and Political Sciences).
1845	*d*	FRANCESCO FERRARA, **Venice.** Senator; Professor and Director of the Royal Superior School of Commerce at Venice; late Minister of Finance; Member of the Academy "dei Lincei."
1880	*d*	ANGELO MESSEDAGLIA, **Rome.** Senator; Professor of Statistics at the Royal University of Rome; Member of the Academy "dei Lincei"; Knight of the Order of Civil Merit of Savoy: Member of the International Statistical Institute; President of the Commission for Judicial Statistics.

Year of Election.

Mexico.

1895 *d* DON MANUEL FERNANDEZ LEAL, **Mexico.**
Secretary of State, Department of "Fomento," Colonization and Industry.

Netherlands.

1896 *d* DR. NICOLAAS GERARD PIERSON, **The Hague.**
Late Minister of Finance; Late President of the Netherlands' Bank; Late Professor of Political Economy at the University of Amsterdam.

1893 *d* DR. VERKERK WILLIAM ARNOLD PETER PISTORIUS, **The Hague.**
Resident Minister, General Secretary to the Ministry of Foreign Affairs.

Roumania.

1896 *d* GRÉGOIRE P. OLANESCO, **Rue Grivitza 36, Bucharest.**
Late Director-General of Customs; Late General Secretary, Ministry of Finance; Officer of the Legion of Honor; Member of the International Statistical Institute.

Russia.

1873 *d* HIS EXCELLENCY PIERRE SEMENOV, **St. Petersburg.**
Senator; Privy Councillor to His Imperial Majesty; President of the Imperial Statistical Council; President of the Imperial Geographical Society; Honorary Member of the Academy of Sciences in St. Petersburg; Associate of the Statistical Society of Paris.

1890 *d* HIS EXCELLENCY NICOLAS TROÏNITSKY, **Kovenskoy-pereoulok, Nr 9, St. Petersburg.**
Former Governor; Privy Councillor; Director of the Central Statistical Committee of the Ministry of the Interior; Life Member of the Statistical Council, of the Imperial Geographical Society of Russia, and of the International Statistical Institute, and Member of the Statistical Society of Paris.

Spain.

1845 HIS EXCELLENCY SEÑOR DON JOSÉ MAGAZ Y JAYME, **Calle de Leon, 13, Madrid.**
Advocate, Gentleman of His Majesty's Chamber, and Member of the Council of State; Ex-Deputy of the Cortes; Ex-Senator; Ex-Director-General of Treasury; Ex-Under-Secretary of the Ministry of Finance; Grand Cross of the Order of Isabella Catolica; Commander of the Order of Carlos 3º.

Year of Election.		
		Sweden and Norway.
1858	*d*	DR. THORKIL HALVORSEN ASCHEHOUG, **41, Josephinegade Christiania.** Doctor of Laws; Professor of Political Economy at the University of Christiania; Assessor Extraordinary of the Supreme Court of Norway; Commander of the First Class of the Norwegian Order of St. Olave, of the Swedish Order of the North Star; and of the Danish Order of the "Dannebroge;" Corresponding Member of the Institute of France; Member of the Institute of International Law, of the International Statistical Institute, and of the Academies of Christiania, Stockholm, Trondhjem and Upsala, also of the Royal Historical Society of Denmark.
1874	*d*	ANDERS NICOLAI KIÆR, **Christiania.** Director of the Central Statistical Bureau of Norway; Associate of the Statistical Society of Paris.
1860	*d*	THOMAS MICHELL, C.B., Late Her Majesty's Consul-General for Norway.
1890	*d*	DR. ELIS SIDENBLADH., Ph.D., **Stockholm.** Director in Chief of the Central Statistical Bureau of Sweden; President of the Royal Statistical Commission; Commander, Officer, and Knight of several Swedish and Foreign Orders; Member of the Royal Academies of Sciences and of Agriculture, at Stockholm; Honorary and Corresponding Member of several foreign learned Societies.
		Switzerland.
1890	*d*	DR. LOUIS GUILLAUME, **Bern.** Doctor of Medicine; Director of the Federal Statistical Bureau; Secretary of the International Penitentiary Commission.
		United States.
1873		THE HON. WILLIAM BARNES, **Thurlow-terrace, Albany, N.Y.** Lawyer; Ex-Superintendent of the Insurance Department, State of New York.
1881	*d*	DR. JOHN SHAW BILLINGS, **New York Public Library, New York City.** A.M., M.D., LL.D., Edinburgh and Harvard; D.C.L., Oxon; Surgeon, U.S. Army; Member of the National Academy of Sciences, &c.
1896	*d*	WORTHINGTON CHAUNCEY FORD, **Haddon Hall, Commonwealth Avenue, Boston, Mass.** Late Chief of the Bureau of Statistics, Treasury Department; Chief of the Bureau of Statistics, Department of State; Member of the International Statistical Institute.

Year of Election.		
		United States—*Contd.*
1890		DR. RICHMOND MAYO-SMITH, M.A., Ph.D., **Columbia College, New York.** Professor of Political Economy and Social Science in Columbia College; Vice-President of the American Statistical Association; Member of the International Statistical Institute, and of the National Academy of Sciences.
1870		THE HON. JOHN ELIOT SANFORD, **Taunton, Mass.** Lawyer; Ex-Speaker of the House of Representatives; Ex-Insurance Commissioner; Ex-Chairman of the Board of Harbour and Land Commissioners; Chairman of the Board of Railroad Commissioners.
1893	*d*	THE HON. CARROLL DAVIDSON WRIGHT, **Washington.** Commissioner of the U.S. Department of Labour; late Chief of the Massachusetts Bureau of Statistics of Labour; President of the Association for the promotion of Profit Sharing; late President and now Vice-President of the American Social Science Association; Vice-President of the American Statistical Association; Member of the American and British Economic Associations, of the International Statistical Institute, and of several other learned Societies.
1877	*d*	DR. EDWARD YOUNG, A.M., Ph.D., **207, Maryland Avenue, N.E., Washington, U.S.A.** Late Consul of the United States; formerly Chief of the Bureau of Statistics, United States of America; Member of the Geographical Society of Paris.
		India.
1886	*d*	JAMES EDWARD O'CONOR, C.I.E., **Calcutta and Simla.** Director-General of Statistics; Assistant Secretary with the Supreme Government, India, Department of Finance and Commerce.
		Dominion of Canada.
1894	*d*	GEORGE JOHNSON, **Ottawa.** Statistician, Department of Agriculture, Ottawa, Canada.
		New South Wales.
1893	*d p*	TIMOTHY AUGUSTINE COGHLAN, **Sydney.** Government Statistician of New South Wales and Registrar of Friendly Societies and Trade Unions; formerly Assistant Engineer for Harbours and Rivers.
1876	*d*	EDWARD GRANT WARD, J.P., **Sydney.** Late Registrar-General; Chairman of Board of Land Titles Commissioners.

Year of Election.		
		New Zealand
1876	*d*	SIR JAMES HECTOR, K.C.M.G., M.D., F.R.S.S. L. and E., F.G.S., &c., **Wellington.** Director of the Geological Survey, of the Meteorological Department, and of the New Zealand Institute, &c.
		Tasmania.
1894	*d*	ROBERT MACKENZIE JOHNSTON, **Hobart.** Registrar-General and Government Statistician; Fellow and Member of Council of the Royal Society of Tasmania; Member of Council and of Senate of the University of Tasmania; Fellow and Past President of Section F (*Economics* and *Statistics*) of the Australasian Association for the Advancement of Science; Fellow of the Royal Geographical Society of Australia; Honorary Foreign Corresponding Member of the Geological Society of Edinburgh; Fellow of the Linnean Society of London.
1876	*d p*	EDWIN CRADOCK NOWELL, J.P., **Hobart.** Clerk of Executive and Legislative Councils of Tasmania; late Government Statistician; Clerk to the Federal Council of Australasia in its four Sessions.
		Victoria.
1858	*d*	WILLIAM HENRY ARCHER, K.C.P., K.S.G., F.I.A., F.L.S., &c., **Grace Park, Hawthorne, Melbourne.** Barrister-at-Law.
		Great Britain and Ireland.
1876	*d*	THE PRESIDENT (for the time being) OF THE MANCHESTER STATISTICAL SOCIETY, **63, Brown Street, Manchester.**
1876	*d*	THE PRESIDENT (for the time being) OF THE STATISTICAL AND SOCIAL INQUIRY SOCIETY OF IRELAND, **35, Molesworth Street, Dublin.**

NOTE.—The Executive Committee request that any inaccuracies in the foregoing List of HONORARY FELLOWS may be pointed out, and that all changes of address may be notified to the Secretary, so that delay in forwarding communications and the publications of the Society may be avoided.

ROYAL STATISTICAL SOCIETY.

Copy of Charter.

Victoria, by the Grace of God of the United Kingdom of Great Britain and Ireland Queen, Defender of the Faith.

To all to whom these Presents shall come, Greeting:—

Whereas Our Right trusty and entirely beloved cousin, Henry, Third Marquess of Lansdowne, Knight of the Most Noble Order of the Garter, Charles Babbage, Fellow of the Royal Society, John Elliott Drinkwater, Master of Arts, Henry Hallam, Fellow of the Royal Society, the Reverend Richard Jones, Master of Arts, and others of Our loving subjects, did, in the year One thousand eight hundred and thirty-four, establish a Society to collect, arrange, digest and publish facts, illustrating the condition and prospects of society in its material, social, and moral relations; these facts being for the most part arranged in tabular forms and in accordance with the principles of the numerical method, and the same Society is now called or known by the name of "The "Statistical Society."

And Whereas it has been represented to Us that the same Society has, since its establishment, sedulously pursued such its proposed objects, and by its publications (including those of its transactions), and by promoting the discussion of legislative and other public measures from the statistical point of view, has greatly contributed to the progress of statistical and economical science.

And Whereas distinguished individuals in foreign countries, as well as many eminent British subjects, have availed themselves of the facilities offered by the same Society for communicating important information largely extending statistical knowledge; and the general interest now felt in Statistics has been greatly promoted and fostered by this Society.

And Whereas the same Society has, in aid of its objects, collected a large and valuable library of scientific works and charts, to which fresh accessions are constantly made; and the said Society has hitherto been supported by annual and other subscriptions and contributions to its funds, and has lately acquired leasehold premises in which the business of the said Society is carried on.

And Whereas in order to secure the property of the said Society, to extend its operations, and to give it its due position among the Scientific Institutions of Our kingdom, We have been besought to grant to Sir Rawson William Rawson, Knight Com-

mander of the Most Distinguished Order of St. Michael and St. George, and Companion of the Most Honourable Order of the Bath, and to those who now are Members of the said Society, or who shall from time to time be elected Fellows of the Royal Statistical Society hereby incorporated, Our Royal Charter of Incorporation for the purposes aforesaid.

1. **Now Know Ye** that We, being desirous of encouraging a design so laudable and salutary, of Our especial grace, certain knowledge and mere motion, have willed, granted, and declared and Do by these Presents, for Us, Our heirs and successors, will, grant, and declare that the said Sir Rawson William Rawson, Knight Commander of the Most Distinguished Order of St. Michael and St. George, and Companion of the Most Honourable Order of the Bath, and such other of Our loving subjects as now are Members of the said Society, or shall from time to time be elected Fellows of "The Royal Statistical Society" hereby incorporated according to such regulations or bye laws as shall be hereafter framed or enacted, and their successors, shall for ever hereafter be by virtue of these presents one body politic and corporate, by the name of **"The Royal Statistical Society,"** and for the purposes aforesaid, and by the name aforesaid, shall have perpetual succession and a common seal, with full power and authority to alter, vary, break, and renew the same at their discretion, and by the same name to sue and be sued, implead and be impleaded, answer and be answered, unto and in every Court of Us, Our heirs and successors.

2. **The** Royal Statistical Society, in this Charter hereinafter called "The Society," may, notwithstanding the statutes of mortmain, take, purchase, hold and enjoy to them and their successors a hall, or house, and any such messuages or hereditaments of any tenure as may be necessary, for carrying out the purposes of the Society, but so that the yearly value thereof to be computed at the rack rent which might be gotten for the same at the time of the purchase or other acquisition, and including the site of the said hall, or house, do not exceed in the whole the sum of Two thousand pounds.

3. **There** shall be a Council of the Society, and the said Council and General Meetings of the Fellows to be held in accordance with this Our Charter shall, subject to the provisions of this Our Charter, have the entire management and direction of the concerns of the Society.

4. **There** shall be a President, Vice-Presidents, a Treasurer or Treasurers, and a Secretary or Secretaries of the Society. The Council shall consist of the President, Vice-Presidents, and not

less than twenty Councillors; and the Treasurer or Treasurers and the Secretary or Secretaries if honorary.

5. **The** several persons who were elected to be the President, Vice-Presidents, and Members of the Council of the Statistical Society at the Annual Meeting held in the month of June, One thousand eight hundred and eighty-six, shall form the first Council of the Society, and shall continue in office until the first Election of officers is made under these presents as hereinafter provided.

6. **General** Meetings of the Fellows of the Society may be held from time to time, and at least one General Meeting shall be held in each year. Every General Meeting may be adjourned, subject to the provisions of the Bye Laws. The following business may be transacted by a General Meeting, viz.:—

(*a.*) The Election of the President, Vice-Presidents, Treasurer or Treasurers, Secretary or Secretaries, and other Members of the Council of the Society.

(*b.*) The making, repeal, or amendment of Bye Laws.

(*c.*) The passing of any proper resolution respecting the affairs of the Society.

7. **Bye Laws** of the Society may be made for the following purposes, and subject to the following conditions, viz.:—

(*a.*) For prescribing the qualification and condition of tenure of office of the President; the number, qualifications, functions, and conditions of tenure of office of the Vice-Presidents, Treasurers, Secretaries, and Members of Council, and Officers of the Society; for making regulations with respect to General Meetings and Meetings of the Council and proceedings thereat, and for the election of any persons to be Honorary Fellows or Associates of the Society, and defining their privileges (but such persons, if elected, shall not be Members of the Corporation), and for making regulations respecting the making, repeal and amendment of Bye Laws, and generally for the government of the Society and the management of its property and affairs.

(*b.*) The first Bye Laws shall be made at the first General Meeting to be held under these presents, and shall (amongst other things) prescribe the time for holding the first election of officers under these presents.

8. **The** General Meetings and adjourned General Meetings of the Society shall take place (subject to the rules or bye laws of the Society, and to any power of convening or demanding a

Special General Meeting thereby given) at such times and places as may be fixed by the Council.

9. **The** existing rules of the Statistical Society, so far as not inconsistent with these presents, shall be in force as the Bye Laws of the Society until the first Bye Laws to be made under these presents shall come into operation.

10. **Subject** to these presents and the Bye Laws of the Society for the time being, the Council shall have the sole management of the income, funds, and property of the Society, and may manage and superintend all other affairs of the Society, and appoint and dismiss at their pleasure all salaried and other officers, attendants, and servants as they may think fit, and may do all such things as shall appear to them necessary or expedient for giving effect to the objects of the Society.

11. **The** Council shall once in every year present to a General Meeting a report of the proceedings of the Society, together with a statement of the receipts and expenditure, and of the financial position of the Society, and every Fellow of the Society may, at reasonable times to be fixed by the Council, examine the accounts of the Society.

12. **The** Council may, with the approval of a General Meeting, from time to time appoint fit persons to be Trustees of any part of the real or personal property of the Society, and may make or direct any transfer of such property so placed in trust necessary for the purposes of the trust, or may, at their discretion, take in the corporate name of the Society conveyances or transfers of any property capable of being held in that name. Provided that no sale, mortgage, incumbrance, or other disposition of any hereditaments belonging to the Society shall be made unless with the approval of a General Meeting.

13. **No** Rule, Bye Law, Resolution, or other proceeding shall be made or had by the Society, or any meeting thereof, or by the Council, contrary to the general scope or true intent and meaning of this Our Charter, or the laws or statutes of Our Realm, and anything done contrary to this present clause shall be void.

In witness whereof We have caused these Our Letters to be made Patent.

Witness Ourself, at Westminster, the thirty-first day of January, in the fiftieth year of Our Reign.

By Warrant under the Queen's Sign Manual,

L. S. MUIR MACKENZIE.

ROYAL STATISTICAL SOCIETY.

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RULES AND BYE-LAWS OF THE ROYAL STATISTICAL SOCIETY.

Objects of the Society.

1. The objects of the Royal Statistical Society are to collect, arrange, digest and publish facts, illustrating the condition and prospects of society in its material, social and moral relations; these facts being for the most part arranged in tabular forms and in accordance with the principles of the numerical method.

The Society collects new materials, condenses, arranges, and publishes those already existing, whether unpublished or published in diffuse and expensive forms in the English or in any foreign language, and promotes the discussion of legislative and other public measures from the statistical point of view. These discussions form portions of the published Transactions of the Society.

Constitution of the Society.

2. The Society consists of Fellows and Honorary Fellows, elected in the manner hereinafter described.

Number of Fellows and Honorary Fellows.

3. The number of Fellows is unlimited. Foreigners or British subjects of distinction residing out of the United Kingdom may be admitted as Honorary Fellows, of whom the number shall not be more than seventy at any one time.

Proposal of Fellows.

4. Every Candidate for admission as a Fellow of the Society shall be proposed by two or more Fellows, who shall certify from their personal knowledge of him or of his works, that he is a fit person to be admitted a Fellow of the Society. Every such certificate having been read and approved of at a Meeting of the Council, shall be suspended in the office of the Society until the following Ordinary Meeting, at which the vote shall be taken.

Election of Fellows.

5. In the election of Fellows, the votes shall be taken by ballot. No person shall be admitted unless at least sixteen Fellows vote, and unless he have in his favour three-fourths of the Fellows voting.

Admission of Fellows.

6. Every Fellow elect is required to take the earliest opportunity of presenting himself for admission at an Ordinary Meeting of the Society.

The manner of admission shall be thus:—

Immediately after the reading of the minutes, the Fellow elect, having first paid his subscription for the current year or his composition, shall sign the obligation contained in the Fellowship-book, to the effect following:—

"We, who have underwritten our "names, do hereby undertake, each for "himself, that we will endeavour to "further the good of the Royal Statis-"tical Society for improving Statistical "Knowledge, and the ends for which "the same has been founded; that we "will be present at the Meetings of the "Society as often as conveniently we "can, and that we will keep and fulfil "the Bye-laws and Orders of this "Society: provided that whensoever "any one of us shall make known, by "writing under his hand, to the Secre-"taries for the time being, that he "desires to withdraw from the Society, "he shall be free thenceforward from "this obligation."

Whereon the President, taking him by the hand, shall say,—"By the "authority, and in the name of the "Royal Statistical Society, I do admit "you a Fellow thereof."

Upon their admission Fellows shall have the right of attaching to their names the letters F.S.S., but not in connection with any trading or business advertisement other than the publication of any book or literary notice.

Admission of Honorary Fellows.

7. There shall be Two Meetings of the Society in the year, on such days as shall be hereafter fixed by the Council, at which Honorary Fellows may be elected.

No Honorary Fellow can be recommended for election but by the Council. At any Meeting of the Council any Member thereof may propose a Foreigner or British subject of distinction residing out of the United Kingdom, delivering at the same time a written statement of the qualifications of, offices held by, and published works of, the person proposed; and ten days' notice at least shall be given to every Member of the Council, of the day on which the Council will vote by ballot on the question whether they will recommend to the Society the election of the person proposed. No such recommendation to the Society shall be adopted unless at least three-fourths of the votes are in favour thereof.

Notice of the recommendation shall be given from the chair at the Meeting of the Society next preceding that at which the vote shall be taken thereon. No person shall be elected an Honorary Fellow unless sixteen Fellows vote and three-fourths of the Fellows voting be in his favour.

The Council shall have power to elect as Honorary Fellows, the Presidents for the time being of the Statistical Societies of Dublin, Manchester, and Paris, and the President of any other Statistical Society at home or abroad.

Payments by Fellows.

8. Every Fellow of the Society shall pay a yearly subscription of Two Guineas, or may at any time compound for his future yearly payments by paying at once the sum of Twenty Guineas,* unless the Annual Subscription or Composition Fee shall be remitted by the Council; provided that the number of Fellows whose Annual Subscription or Composition Fee shall have been thus remitted, do not exceed five at any one time.

Defaulters.—Withdrawal of Fellows.

9. All yearly payments are due in advance on the 1st of January, and if any Fellow of the Society have not paid his subscription before the 1st of July, he shall be applied to in writing by the Secretaries, and if the same be not paid before the 1st of January of the second year, a written application shall again be made by the Secretaries, and the Fellow in arrear shall cease to receive the Society's publications, and shall not be entitled to any of the privileges of the Society until such arrears are paid; and if the subscription be not discharged before the 1st of February of the second year, the name of the Fellow thus in arrear shall be exhibited on a card suspended in the office of the Society; and if, at the next Annual General Meeting, the amount still remain unpaid, the defaulter shall, unless otherwise authorised by the Council, be announced to be no longer a Fellow of the Society, the reason for the same being at the same time assigned. No Fellow of the Society can withdraw his name from the Society's books, unless all arrears be paid; and no resignation will be deemed valid unless a written notice thereof be communicated to the Secretaries. No Fellow shall be entitled to vote at any Meeting of the Society until he shall have paid his subscription for the current year.

Expulsion of Fellows.

10. If any Fellow of the Society, or any Honorary Fellow, shall so demean himself that it would be for the dishonour of the Society that he longer continue to be a Fellow or Honorary Fellow thereof, the Council shall take the matter into consideration; and if the majority of the Members of the Council present at some Meeting (of which and of the matter in hand such Fellow or Honorary Fellow, and every Member of the Council, shall have due notice) shall decide by ballot to recommend that such Fellow or Honorary Fellow be expelled from the Society, the President shall at its next Ordinary Meeting announce to the Society the recommendation of the Council, and at the following Meeting the question shall be decided by ballot, and if at least three-fourths of the

* Cheques should be made payable to "The Royal Statistical Society," and crossed "Messrs. "Drummond and Co."

number voting are in favour of the expulsion, the President shall forthwith cancel the name in the Fellowship-book, and shall say,—

"By the authority and in the name "of the Royal Statistical Society, I do "declare that A. B. (naming him) is no "longer a Fellow (or Honorary Fellow) "thereof."

And such Fellow or Honorary Fellow shall thereupon cease to be of the Society.

Trustees.

11. The property of the Society may be vested in three Trustees, chosen by the Fellows. The Trustees are eligible to any other offices in the Society.

President, Council, and Officers.

12. The Council shall consist of a President and thirty Members, together with the Honorary Vice-Presidents.

From the Council shall be chosen four Vice-Presidents, a Treasurer, the Honorary Secretaries, and a Foreign Secretary, who may be one of the Honorary Secretaries. The former Presidents who are continuing Fellows of the Society shall be Honorary Vice-Presidents. Any five of the Council shall be a quorum.

Election of President and Officers.

13. The President, Members of Council, Treasurer, and Honorary and Foreign Secretaries shall be chosen annually by the Fellows at the Annual General Meeting.

The Vice-Presidents shall be chosen annually from the Council by the President.

The President shall not be eligible for the office more than two years in succession.

Six Fellows, at least, who were not of the Council of the previous year, shall be annually elected; and of the Members retiring three at least shall be those who have served longest continuously on the Council, unless they hold office as Treasurer or Honorary or Foreign Secretary.

Nomination of President, Council, and Officers.

14. The Council shall, previously to the Annual General Meeting, nominate, by ballot, the Fellows whom they recommend to be the next President and Council of the Society. They shall also recommend for election a Treasurer and the Secretaries (in accordance with Rule 12). Notice shall be sent to every Fellow whose residence is known to be within the limits of the metropolitan post, at least a fortnight before the Annual General Meeting, of the names of Fellows recommended by the Council.

Extraordinary Vacancies.

15. On any extraordinary vacancy occurring of the Office of President, or other Officer of the Society, the Honorary Secretaries shall summon the Council with as little delay as possible, and a majority of the Council, thereupon meeting in their usual place, shall, by ballot, and by a majority of those present, choose a new President, or other Officer of the Society, to be so until the next Annual General Meeting.

Committees.

16. The Council shall have power to appoint Committees of Fellows and also an Executive Committee of their own body. The Committees shall report their proceedings to the Council. No report shall be communicated to the Society except by the Council.

Auditors.

17. At the first Ordinary Meeting of each year, the Fellows shall choose two Fellows, not being Members of the Council, as Auditors, who, with one of the Council, chosen by the Council, shall audit the Treasurer's accounts for the past year, and report thereon to the Society, which report shall be presented at the Ordinary Meeting in February. The Auditors shall be empowered to examine into the particulars of all expenditure of the funds of the Society, and may report their opinion upon any part of it.

Meetings Ordinary and General.

18. The Ordinary Meetings of the Society shall be held monthly, or oftener, during the Session, which shall be from the 1st of November to the 1st of July in each year, both inclusive, on such days and at such hours as the Council shall declare. The Annual General Meeting shall be held on such day in the month of June of each year as shall be appointed by the Council for the time being.

Business of Ordinary Meetings.

19. The business of the Ordinary Meetings shall be to elect and admit Fellows, to read and hear reports, letters, and papers on subjects interesting to the Society. Nothing relating to the bye-laws or management of the Society shall be discussed at the Ordinary Meetings, except that the Auditors' Report shall be presented at the Ordinary Meeting in February, and that the Minutes of the Annual General Meeting, and of every Special General Meeting, shall be submitted for confirmation at the next Ordinary Meeting after the day of such Annual or Special General Meeting. Strangers may be introduced to the Ordinary Meetings, by any Fellow, with the leave of the President, Vice-President, or other Fellow presiding at the Meeting.

Business of Annual General Meeting.

20. The business of the Annual General Meeting shall be to elect the Officers of the Society, and to discuss questions on its bye-laws and management. No Fellow or Honorary Fellow shall be proposed at the Annual General Meeting. No Fellow shall propose any alteration of the rules or bye-laws of the Society at the Annual General Meeting, unless after three weeks' notice thereof given in writing to the Council, but amendments to any motion may be brought forward without notice, so that they relate to the same subject as the motion. The Council shall give fourteen days' notice to every Fellow of all questions of which such notice shall have been given to them.

Special General Meetings

21. The Council may, at any time, call a Special General Meeting of the Society when it appears to them necessary. Any twenty Fellows may require a Special General Meeting to be called, by notice in writing signed by them, delivered to one of the Secretaries, specifying the questions to be moved. The Council shall, within one week of such notice, appoint a day for such Special General Meeting, and shall give at least one week's notice of every Special General Meeting, and of the questions to be moved, to every Fellow within the limits of the metropolitan post, whose residence is known. No business shall be brought forward at any Special General Meeting other than that specified in the notice convening the same.

Duties of the President.

22. The President shall preside at all Meetings of the Society, Council, and Committees which he shall attend, and in case of an equality of votes, shall have a second or casting vote. He shall sign all diplomas of admission of Honorary Fellows. He shall admit and expel Fellows and Honorary Fellows, according to the bye-laws of the Society.

Duties of the Treasurer.

23. The Treasurer shall receive all moneys due to, and pay all moneys owing by, the Society, and shall keep an account of his receipts and payments. No sum exceeding Ten Pounds shall be paid but by order of the Council, excepting always any lawful demand for rates or taxes. The Treasurer shall invest the moneys of the Society in such manner as the Council shall from time to time direct.

Duties of the Honorary Secretaries.

24. The Honorary Secretaries shall, under the control of the Council, conduct the correspondence of the Society; they or one of them shall attend all Meetings of the Society and Council, and shall duly record the Minutes of the Proceedings. They shall issue the requisite notices, and read such papers to the Society as the Council may direct.

Powers of the Vice-Presidents.

25. A Vice-President, whether Honorary or nominated, in the chair, shall act with the power of the President in presiding and voting at any Meeting of the Society or Council, and in admitting Fellows; but no Vice-President shall be empowered to sign diplomas of admission of Honorary Fellows, or to expel Fellows or Honorary Fellows. In the absence of the President and Vice-Presidents, any Member of Council may be called upon by the Fellows then present, to preside at an Ordinary or Council Meeting, with the same power as a Vice-President.

Powers of the Council.

26. The Council shall have control over the papers and funds of the Society, and may, as they shall see fit, direct the publication of papers and the expenditure of the funds, in accordance with the provisions of the Charter.

27. The Council shall be empowered at any time to frame Regulations not inconsistent with these bye-laws, which shall be and remain in force until the next Annual General Meeting, at which they shall be either affirmed or annulled; but no Council shall have power to renew Regulations which have once been disapproved at an Annual General Meeting.

28. The Council shall have the custody of the Common Seal. The Common Seal shall not be affixed to any instrument, deed, or other document, except by order of the Council and in the presence of at least two Members of the Council and in accordance with such other regulations as the Council shall from time to time prescribe. The fact of the seal having been so affixed shall be entered on the minutes of the Council.

29. No Dividend, Gift, Division, or Bonus in money shall be made by the Society, unto or between any of the Fellows or Members, except as hereinafter provided.

30. The Council shall publish a Journal of the Transactions of the Society, and such other Statistical Publications as they may determine upon, and may from time to time pay such sums to Editors and their assistants, whether Fellows of the Society or not, as may be deemed advisable.

31. All communications to the Society are the property of the Society, unless the Council allow the right of property to be specially reserved by the Contributors.

REGULATIONS OF THE LIBRARY.

1. The Library and the Reading Room are open daily for the use of Fellows from 10 a.m. till 5 p.m., except on Saturdays, when they are closed at 2 p.m.

2. Fellows of the Society are permitted to take out Books on making personal application, or by letter addressed to the Librarian, all expenses for carriage being paid by the Fellows.

3. Fellows are not to keep any books longer than one month. Any Fellow detaining a book for more than a month shall not be permitted to take another from the Library until the book detained shall have been returned.

On the termination of a year for which the subscription has not been paid, a Fellow whose payment is in arrear shall cease to have the privilege of using the Library or borrowing books therefrom.

4. Scientific Journals and Periodicals are not circulated until the volumes are completed and bound.

5. Cyclopædias and works of reference are not circulated, but may be lent on the written order of an Honorary Secretary for a period not exceeding *seven* days. The Assistant Secretary or Librarian is allowed at his discretion to lend works of reference for a period not exceeding *three* days, reporting at the same time to the Honorary Secretaries. If works so lent be not returned within the specified time, the borrower shall incur a fine of one shilling per day per volume for each day they are detained beyond the time specified.

6. Any Fellow damaging or losing a book, shall either replace the work, or pay a fine equivalent to its value.

7. Books taken from the shelves for reference, are *not* to be replaced, but must be laid on the Library table.

8. The Librarian shall report to the Council any infringement of these regulations, and lay upon the table at each regular Meeting (*a*) a List of any "Works of Reference" that may have been borrowed, and (*b*) a List of Books that have been out more than a month.

DONORS TO THE LIBRARY.

During the Year (ending 15th September) 1898.

(a) **Foreign Countries.**

Argentine Republic—
General Statistical Bureau.
National Health Department.
Buenos Ayres, Provincial and Municipal Statistical Bureaus.

Austria and Hungary—
Central Statistical Commission.
Ministry of Agriculture.
Statistical Department of the Ministry of Commerce.
Bohemian Statistical Bureau.
Bosnia and Herzegovina Statistical Bureau.
Hungarian Statistical Bureau.
Brünn Statistical Bureau.
Budapest Statistical Bureau.
Prague Statistical Bureau.

Belgium—
Army Medical Department.
Bureau of General Statistics.
Administration of Mines.
Belgian Labour Department.
Brussels Bureau of Hygiene.
Hasselt, The Burgomaster.
Royal Academy of Sciences.

Bulgaria. Statistical Bureau.

China. Imperial Maritime Customs.

Denmark—
Royal Statistical Bureau.
Copenhagen Statistical Bureau.
Political Economy Society.

Egypt—
Department of Public Health.
Director-General of Customs.
,, Post Office.
Ministry of Finance.
Egyptian Institute, Cairo.
Comité de Conservation des Monuments de l'Art Arabe.

France –
Director-General of Customs.
Director of the Mint.
French Labour Department.
Ministry of Agriculture.
,, Finance.
,, The Interior.
,, Justice.
,, Public Works.
Paris Statistical Bureau.
Economiste Français, The Editor.
Journal des Economistes, The Editor.
Monde Economique, The Editor.
Réforme Sociale, The Editor.
Rentier, Le, The Editor.
Polybiblion, Revue Bibliographique Universelle, The Editor.
Revue d'Economie Politique, The Editor.
Revue Géographique Internationale, The Editor.
Statistical Society of Paris.
Free School of Political Science.
Musée Social, Paris.
Revue de Statistique, The Publisher.

During the Year 1897-98—*Contd.*

(a) **Foreign Countries**—*Contd.*

Germany—
Imperial Health Bureau.
„ Insurance Bureau.
„ Judicial Bureau.
„ Statistical Bureau.
German Consul-General, London.
Prussian Royal Statistical Bureau.
Saxony Royal Statistical Bureau.
Berlin Statistical Bureau.
Dresden Statistical Bureau.
Frankfort Chamber of Commerce.
Frankfort Statistical Bureau.
Hamburg Statistical Bureau.
Hanover Statistical Bureau.
Mannheim Statistical Bureau.
Allgemeines Statistisches Archiv, The Editor.
Archiv für Soziale Gesetzgebung, &c., The Editor.
Jahrbuch für Gesetzgebung, &c., The Editor.
Jahrbücher für Nationalökonomie und Statistik, The Editor.
Zeitschrift für die gesamte Staatswissenschaft, The Editor.
Zeitschrift für Socialwissenschaft.
German Gold Standard Defence Association.
Geographical and Statistical Society of Frankfort.

Greece. Statistical Bureau.

Italy—
Director-General of Statistics.
„ Agriculture.
„ Customs.
Economista, The Editor.
Giornale degli Economisti, The Editor.
Rivista Italiana di Sociologia, The Editor.

Japan—
Agricultural and Commercial Department.
Bureau of General Statistics.

Mexico. Statistical Bureau.

Netherlands—
Central Statistical Commission.
Department of the Interior.
„ Finance.
Director-General of Customs.
Post Office Savings Banks Department.

Norway—
Central Statistical Bureau.
Christiania Health Department.

Portugal. General Statistical Bureau.

Roumania—
Statistical Bureau.
Bucharest Statistical Bureau.

Russia—
Central Statistical Committee.
Controller of the Empire.
Customs Statistical Bureau.
Ministry of Finance.
Bulletin russe de Statistique financière, The Editor.
Finland Geographical Society.
„ Statistical Bureau.
Société imperiale libre économique.

Servia. Statistical Bureau.

Spain—
Director-General of Customs.
Geographical Soc. of Madrid.

Sweden—
Central Statistical Bureau.
Stockholm Health Department.

During the Year 1897-98—*Contd.*

(a) **Foreign Countries**—*Contd.*

Switzerland—
Federal Assurance Bureau.
„ Statistical Bureau.
„ Department of Customs.
Statistical Society.
Swiss Union of Commerce and Industry.
Aargau Statistical Bureau.
Geneva Public Library.

United States—
Bureau of Education.
„ Ethnology.
„ Foreign Commerce.
Commissioner of Labor.
Comptroller of the Currency.
Department of Agriculture.
Director of the Mint.
Naval Observatory.
Secretary of the Treasury.
„ Interior.
Surgeon-General, U. States Army.
Statistical Bureau, Treasury.
California. Bureau of Labor Statistics.
Connecticut—
State Board of Health.
Bureau of Labor Statistics.
Illinois—
Bureau of Labor Statistics.
The University.
Indiana. Bureau of Labor Statistics.
Iowa. Bureau of Labor Statistics.
Kansas. Bureau of Labor Statistics.
Maine. Bureau of Labor and Industrial Statistics.
Maryland. Bureau of Industrial Statistics.
Massachusetts—
Board of Arbitration.
„ Health, Lunacy, &c.
Bureau of Labor Statistics.
United States—Contd.
Michigan—
Bureau of Labor and Industrial Statistics.
Division of Vital Statistics.
Minnesota—
Bureau of Labor Statistics.
State Board of Corrections.
Missouri. Bureau of Labor Statistics.
Nebraska. Bureau of Labor and Industrial Statistics.
New Hampshire. Bureau of Labor Statistics.
New Jersey. Bureau of Labor Statistics.
New York Public Library.
„ Bureau of Labor Statistics.
North Carolina. Bureau of Labor Statistics.
Ohio. Bureau of Labor Statistics.
Pennsylvania. Bureau of Industrial Statistics.
Wisconsin—
Bureau of Labor Statistics.
State Board of Health.
Boston Department of Municipal Statistics.
Brooklyn Superintendent of Police.
Bankers' Magazine, The Editor.
Bradstreet's Journal, The Editor.
Commercial and Financial Chronicle, The Editor.
Engineering and Mining Journal, The Editor.
Journal of Political Economy, The Editor.
Political Science Quarterly, Columbia College, The Editor.
Quarterly Journal of Economics, The Editor.
Yale Review, The Editor.

During the Year 1897-98—*Contd.*

(a) **Foreign Countries**—*Contd.*

United States—Contd.
- Academy of Arts and Sciences.
- Academy of Political and Social Science.
- Actuarial Society of America.
- Economic Association, Baltimore.
- Geographical Society, New York.
- Philosophical Society, Philadelphia.
- Statistical Association, Boston.
- Columbia College, New York.
- Leland Stanford Junior University.
- John Crerar Library.
- Johns Hopkins University.
- Reform Club, New York.
- Smithsonian Institution.
- Yale University.
- Sound Currency Committee.

Uruguay—
- Statistical Bureau.
- Director of Civil Registration.
- Montevideo Statistical Bureau.

(b) **India, and Colonial Possessions.**

India, British—
- Director-General of Statistics.
- Finance and Commerce Depart.
- Revenue and Agricultural Department.
- Lieutenant-Governor of Bengal.
- Bengal, The Collector of Customs.
- Indian Engineering, The Editor.
- Asiatic Society of Bengal.
- Bombay Branch of the Royal Asiatic Society.

Canada—
- Department of Agriculture.
- Ontario Bureau of Industries.
- Insurance and Finance Chronicle, The Editor.
- Royal Society of Canada.

Cape of Good Hope—
- Agent-General for the Cape.
- Colonial Secretary.

Ceylon—
- Lieut.-Governor and Colonial Secretary.
- General Manager of Government Railways.

Jamaica. Registrar-General.

Mauritius. The Colonial Secretary.

New South Wales—
- Agent-General, London.
- Government Statist, Sydney
- Registrar-General.

New Zealand—
- Registrar-General.
- Registrar of Friendly Societies.
- Department of Mines.
- Insurance Department.
- Labour Department.
- Colonial Museum, Wellington.
- New Zealand Institute.
- Trade Review, The Editor.
- Wellington Harbour Board.

Queensland—
- Agent-General, London.
- Registrar-General.

Rhodesia. British South Africa Company.

South Australia—
- The Chief Secretary.
- The Registrar-General.
- Government Statist.
- Public Actuary.

During the Year 1897-98—*Contd.*

(b) **India, and Colonial Possessions**—*contd.*

Straits Settlements. The Government Secretary, Perak.

Tasmania—
Government Statistician, Hobart.
Royal Society of Tasmania.

Victoria—
Hon. the Premier of Victoria.
Assist. Government Statist.

Victoria—Contd.
Actuary for Friendly Societies.
Royal Society of Victoria.
Public Library, &c., Melbourne.

Western Australia—
The Government Actuary.
Acting Collector of Customs.
Registrar-General.

(c) **United Kingdom and its several Divisions.**

United Kingdom—
Admiralty Medical Department.
Board of Agriculture.
Army Medical Department.
„ Veterinary Department.
Board of Trade.
British Museum.
Customs, Commissioners of.
Home Office.
India Office.
Labour Department.
Local Government Board.
Metropolitan Asylums Board.
Royal Mint.
Woods, Forests, &c., H.M.

England—
Registrar-General of England.
London County Council.
„ School Board.
Metropolitan Asylums Board.
Battersea, The Vestry of.
Fulham Free Public Library.
Wandsworth Board of Works.
Birmingham City Treasurer.

England—Contd.
Bradford City Accountant.
Liverpool Free Public Library.
Manchester Free Public Library.
The Medical Officer of Health of the Local Government Board and of the following towns: Birkenhead, Birmingham, Bolton, Bradford, Brighton, Bristol, Cardiff, Derby, Halifax, Huddersfield, Hull, Leeds, Leicester, Liverpool, Manchester, Newcastle-on-Tyne, Norwich, Nottingham, Preston, Salford, Sunderland, Wolverhampton.

Ireland. Registrar-General of Ireland.

Scotland—
Registrar-General of Scotland.
Edinburgh City Chamberlain.
Aberdeen Medical Officer.
Glasgow Medical Officer.

(d) **Authors, &c.**

Acworth, W. M., London.
Allan, Dr. F. J., London.
Allard, A., Brussels.
Allgood, Henry G. C., Cardiff.
Back, Frederick, Tasmania.
Baden-Powell, Sir George, M.P.
Baker, Henry B., London.
Barlow, Montague, London.

During the Year 1897-98—*Contd.*

(d) **Authors, &c.**—*Contd.*

Bertillon, Dr. J., Paris.
Billings, Dr. J. S., Washington.
Blenck, Herr E., Berlin.
Blondel, Georges, Paris.
Böckh, Dr. R., Berlin.
Bodio, Professor Luigi, Rome.
Bortkewitsch, D. L. von, Leipzig.
Bosco, Augusto, Rome.
Bourinot, Sir J. G., K.C.M.G., LL.D.
Boutcher, Mortimore, & Co., London.
Brassey, Lord, Melbourne.
Burdett, Sir Henry, London.
Butlin, W. H., London.
Channing, Francis A., London.
Clarke, Nicholls, & Co., London.
Coghlan, T. A., Sydney.
Cohn, Dr. Gustav, Germany.
Coni, Dr. E. R., Argentina.
Conrad, Dr. J., Jena.
Cook, Lady, London.
Cooper, Joseph, Farnworth.
Craigie, Major P. G., London.
Crawford, R. F., London.
Crosfield, Charles J., Liverpool.
Cunningham, Rev. W., Cambridge.
Dalla Volta, M. Ricardo, Italy.
Dangerfield, Athelstan, London.
Darwin, Major Leonard, London.
Deane, Albert B., London.
Del Mar, Alexander, New York.
Denis, Hector, Brussels.
Doyle, Patrick, Calcutta.
Dun & Co., Messrs. R. G., U.S.A.
Eaton & Sons, Messrs. H. W., London.
Ellison & Co., Messrs., Liverpool.
Ely, Dr. Richard T., U.S.A.
Engel, Dr., Cairo.
Farrer, Lord, London.
Fircks, A. Freiherr von, Leipzig.
Fischer, Herr Gustav, Jena.
Ford, Worthington C., U.S.A.
Fornasari di Verce, Dr. E., Italy.
Forster, John W., Nottingham.
Foville, M. A. de, Paris.
Garcke, Emile, London.
Garland, N. S., Ottawa.
George, J. E., U.S.A.
Ginsburg, Dr. B. W., London.
Gooch, Thomas & Sons, London.
Goulichambaroff, S., St. Petersburg.
Gow, William, London.
Gow, Wilson, & Stanton, Messrs.
Green, Charles H., London.
Grimshaw, Dr. T. W., Dublin.
Guillaume, Dr. Louis, Bern.
Guillaumin et Cie., Messrs., Paris.
Guyot, M. Yves, Paris.
Haggard, F. T., Tunbridge Wells.
Hart, Sir R., Bart., G.C.M.G., Peking.
Helmuth Schwartze & Co., Messrs.
Hoar, Hon. George F., U.S.A.
Hoffman, F. L., New York.
Holmes, George K., Washington.
Humphreys, N. A., London.
Hyde, John, U.S.A.
Inama-Sternegg, Dr. K. T., Vienna.
Janssens, Dr. E., Brussels.
Johnson, Geo., Ottawa.
Johnston, R. M., Hobart.
Juraschek, Dr. F. v., Vienna.
Kelly, Charles, M.D., F.R.C.P.
Keltie, J. Scott, London.
Kemp & Co., John, London.
Kemper, Dr. G. de Bosch.
Kennedy, Sir Charles, Exmouth.
Kiær, M. A. N., Christiana.
King, Messrs. P. S. & Sons, Westminster.
Körösi, M. Joseph, Budapest.
Kropotkin, P., London.
Latzina, Dr. F., Buenos Ayres.
Leroy-Beaulieu, M. Paul, Paris.
Linroth, Dr. K., Stockholm.
Livi, Ridolfo, Rome.
Macleod, Henry D., London.
Macmillan & Co., Messrs., London.
Madelon, J., Mauritius.
Marston, R. B., London.

During the Year 1897-98—*Contd.*

(d) **Authors, &c.**—*Contd.*

Mayr, Dr. G. von, Strassburg.
Methuen & Co., Messrs., London.
Mitchell & Co., Messrs., London.
Molinari, M. G., Paris.
Money, Alonzo, C.B., Cairo.
Morgan, Percy C., London.
Moss & Co., Messrs. R. J., Egypt.
Mullins, Dr. G. L., Sydney.
Nares, Vice-Admiral Sir G., Liverpool.
Neumann, J. O., London.
Newsholme, Dr. A., Brighton.
Neymarck, A., Paris.
Norman, J. H., London.
O'Conor, J. E., C.I.E., India.
Page & Gwyther, Messrs., London.
Palmer, Sir E. M., K.C.M.G., Cairo.
Petersen, Aleksis, Copenhagen.
Pierson, Israel C., New York.
Pillai, G. P., India.
Pistorius, Dr. Verkerk, The Hague.
Pittar, T. J., London.
Pixley & Abell, Messrs., London.
Pixley, Francis W., London.
Powell, Messrs. T. J. & Co., London.
Priestley, Herbert, N.S.W.
Probyn, L. C., London.
Raineri, Salvatore, Rome.
Rawson, Sir R. W., K.C.M.G., C.B.
Reis, J. Batalha, London.
Rew, R. H., London.
Ronald & Rodger, Messrs., Liverpool.
Rothwell, R. P., New York.
Sachs, E. O., London.
Schmoller, Dr. G., Germany.
Seligman, Prof. E. R. A., New York.
Seyd, Richard, London.
Shillito, J., York.
Sidenbladh, Dr. K., Stockholm.
Smith, G. Armitage, London.
Sonden, Klas, Stockholm.
Sowray, J. Russell, London.
Stanton, A. G., London.
Storer, Dr. H. R., U.S.A.
Strachan, T. Y., Newcastle-on-Tyne.
Thompson, W. J. & Co., London.
Troïnitsky, M. N., St. Petersburg.
Urmson, Elliot, & Co., Liverpool.
Weedon, Thornhill, Queensland.
Whiteley, William, London.
Williams and Norgate, London.
Wright, Hon. C. D., Washington.

(e) **Societies, &c. (British).**

Accountants & Auditors, Society of.
Actuaries, Institute of.
Anthropological Institute.
Arts, Society of.
Bankers, Institute of.
Bimetallic League.
British Economic Association.
„ Iron Trade Association.
„ Association.
„ Fire Prevention Committee.
Chartered Accountants, Institute of.
City Liberal Club.
Civil Engineers, Institution of.
Cobden Club.
East India Association.
Glasgow Philosophical Society.
Gold Standard Defence Association.
Howard Association.
Imperial Institute.
Incorporated Accountants' Society.
International Statistical Institute.
Iron and Steel Institute.
Liverpool Lit. and Phil. Society.
London Chamber of Commerce.
„ Hospital.
„ Municipal Society.

During the Year 1897-98—*Contd.*

(e) **Societies, &c. (British)**—*Contd.*

Manchester Lit. and Phil. Society.
„ Statistical Society.
Middlesex Hospital.
Mitchell Library, Glasgow.
National Deposit Friendly Society.
Peabody Donation Fund.
Royal Agricultural Society.
„ Asiatic Society.
„ College of Physicians.
„ College of Surgeons.
„ Colonial Institute.
„ Geographical Society.
„ Institution of Great Britain.
„ Irish Academy.
Royal Meteorological Society.
„ Society, Edinburgh.
„ Society, London.
„ United Service Institution.
St. Bartholomew's Hospital.
Sanitary Institute of Great Britain.
Scottish Society of Economists.
Seamen's Hospital Society.
Society for Propagation of the Gospel in Foreign Parts.
Statistical and Social Inquiry Society of Ireland.
Surveyors' Institution.
University College, London.

(f) **Periodicals, &c. (British).** *The Editors of—*

Accountant, The, London.
Athenæum, The, London.
Australian Trading World, The, London.
Bankers' Magazine, The, London.
British Trade Journal, The, London.
Building Societies, &c., Gazette, The.
Citizen, The, London.
Colliery Guardian, The, London.
Commercial World, The, London.
Economic Review, The, London.
Economist, The, London.
Finance Chronicle, The, London.
Finance Examiner, The London.
Fireman, The London.
Incorporated Accountants Journal.
Insurance Post, The, London.
Insurance Record, The, London.
Investors' Monthly Manual, The.
Investors' Review, The, London.
Iron and Coal Trades' Review, The,
Johannesburg Standard, &c., The. London Edition.
Licensing World, The, London.
Machinery Market, The, London.
Nature, London.
Policy-Holder, The, Manchester.
Post Magazine, The, London.
„ Almanack, London.
Sanitary Record, The, London
Shipping World, The, London.
Statist, The, London.

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